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100 Resilient Cities: Tulsa Workshop Summary Report

October 2015

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1 Workshop Summary & Assessment

Introduction

On Friday, September 25, 2015, the City of Tulsa (“the City”), 100 Resilient Cities (“100RC”), and HR&A Advisors (“HR&A”) convened 57 stakeholders¹ ranging from City to federal agencies, along with 100RC Platform Partner representatives, at The Helmerich Center for American Research at the Gilcrease Museum to engage in a dialogue about Tulsa’s resilience, focused on four goals:

1. Introduce Tulsa to the 100 Resilient Cities initiative;
2. Familiarize participants with the City Resilience Framework and resilience concepts;
3. Identify Tulsa’s resilience issues; and
4. Connect stakeholders.

The workshop was successful in achieving these objectives. In particular, it brought together a broad range of stakeholders who will be critical to the success of the 100RC initiative in Tulsa, including representatives from City and regional government, local nonprofits, the private sector, faith-based organizations, academic institutions, and philanthropic groups. The workshop was divided into four Exercises with speakers interspersed throughout the day. Details of each workshop session follow.

Morning Session

Brett Fidler, the City’s Director of Energy and Enterprise Development, kicked off the workshop, welcoming participants and introducing the 100RC and City Teams. Jee Mee Kim, the HR&A Workshop Lead responsible for overseeing execution of the day’s events, followed by briefly outlining the structure of the workshop.



Image 1. Brett Fidler and Jee Mee Kim each give introductory remarks during the Morning Session.

The 100RC Team then presented the 100RC initiative and the principles of urban resilience. Olivia Stinson, Associate Director for City Relationships, described 100RC program components, consisting of funding to hire a Chief Resilience Officer (“CRO”), strategy development support, access to Platform Partners, and membership in the global CRO network. Andrew Salkin, Chief Operating Officer, introduced the concept and importance of urban resilience, key resilience concepts (shocks, stresses, and core qualities of resilient systems), and the City Resilience Framework. He also shared case studies of urban resilience from New York City and Medellín.

¹ Stakeholder attendance numbers do not include the two City Team members, workshop organizers, and the two guest speakers.



Image 2. Olivia Stinson and Andrew Salkin discuss the 100RC program and urban resilience.

Following the 100RC presentation, participants began the first Exercise, “What is Resilience?” at their table break-out groups to delve deeper into the concepts presented in the context of Tulsa. Within each group, participants took a few minutes to introduce themselves before launching into the 30 minute exercise and subsequent reporting.



Image 3. A breakout group debates qualities of and factors contributing to resilience during Exercise 1.

After a short break, Mayor Dewey F. Bartlett, Jr. arrived and addressed attendees with a focus on his commitment to the 100RC initiative. He emphasized the need for Tulsa to engage in a collaborative process to address and implement actions related to the initiative and eventual focus areas. Mayor Bartlett noted the progress Tulsa has already achieved in managing flooding, but recognized the City’s substantial work ahead to address shocks and stresses comprehensively, recognizing Tulsa’s need to begin thinking more holistically about shocks and stresses to include social and economic issues. Following his remarks, the Mayor accepted a plaque from Andrew Salkin recognizing Tulsa’s membership in the 100RC network. Following the plaque ceremony, Mayor Bartlett and Mr. Salkin joined a press conference while the workshop moved into the next exercise.



Image 4. Andrew Salkin recognizes Tulsa's 100RC membership before Mayor Bartlett's Keynote.

Breakout groups then engaged in the Shocks and Stresses Prioritization, Exercise 2. To launch the activity, Jee Mee Kim summarized pre-workshop survey results revealing participants' perceptions of Tulsa's top acute and chronic vulnerabilities over the near- and long-term (over the next five to ten years and the next 50 to 70 years, respectively). At each table participants conveyed their views about Tulsa's shocks and stresses by mapping notecards with potential shock and stress categories onto a grid, which required participants to consider the frequency and severity of each type of shock or stress. Based on facilitators' input after the workshop, participant groups most commonly identified the following shocks as the greatest risk to Tulsa, with equal support for the latter three:

- *Severe storm/weather*
- *Tornado*
- *Severe ice storm*
- *Infrastructure failure*

These workshop outputs aligned with the top pre-workshop survey results, though flooding and drought also ranked top concerns on the survey. Regarding the City's most concerning stresses, participants most often identified:

- *Aging infrastructure*
- *Education quality*

These aligned with the pre-workshop survey, which demonstrated a strong concern for aging infrastructure as well as the transportation network. However, participants attributed the third-likeliest stress equally across the following issues:

- *Shifting macroeconomic trends*
- *Poverty/inequity*
- *Lack of social cohesion*
- *Crime & violence*

Facilitators and volunteers from each table reported conclusions to the full group, including the table's rationale and discussions. Many participants observed that historically, Tulsa has been more capable of addressing shocks than stresses. Participants noted that looking forward, the City must more proactively respond to stresses to improve resilience over the long-term. In some groups, participants drew lines between shocks and stresses to highlight their interconnectedness. For instance, several participants recognized an apparent connection between poor transportation infrastructure and job access among vulnerable populations. In most groups, participants clustered related shocks, such as severe weather, flooding, and tornadoes.

Lunchtime Session

During lunch, Hannibal B. Johnson, an author, lawyer, and consultant, presented an in-depth historical perspective on Tulsa’s resiliency challenges, and in so doing, contextualized issues prevalent today. He spoke of the 1921 race riots, which left an indelible mark on Tulsa and continues to resonate within the City. Historians estimate that 300 people died, and historical photographs reveal the destruction of the Greenwood neighborhood of Tulsa, home to the burgeoning black middle class at the time. Many victims never received compensation for their losses due to the riots. Tulsa today is geographically divided by race and ethnicity, and these divisions have broader implications on access to services, like education and healthcare, as well as access to jobs. Mr. Johnson asserted the necessity of unearthing and addressing these latent and difficult issues to develop a foundation for true resilience as the 100RC process moves forward in Tulsa.



Image 4. Participants deliberate about Tulsa’s most salient shocks and stresses during Exercise 2.

Afternoon Session

During the afternoon session, tables engaged in Exercise 3, the City Resilience Diagnostic. Jee Mee Kim introduced the 60-minute exercise with summaries of relevant Pre-workshop Survey results, including participants’ perceptions about the comprehensiveness of Tulsa’s resilience historically, over the last three years, and over the next five to ten years, as well as reactions to the City’s degree of preparedness in responding to the 2007 and 2008 ice storms. Participants used red, green, and yellow sticky dots to rank Tulsa’s performance in relation to the twelve drivers of the City Resilience Framework.

To push participants to prioritize as they ranked the drivers, each participant was provided with three stickers of each color (green, yellow, and red) to reflect areas of strength, those which is doing a fair job but could do better, and areas of weakness. Once participants completed their individual assessments, facilitators led a discussion to reach group consensus about Tulsa’s position according to individual drivers and, ultimately, to select three areas of strength and three in need of improvement, as indicated by green and red dots, respectively. Specifically, facilitators visually consolidated participants’ votes by drawing three large red dots and three large green dots within the inner ring of the City Resilience Framework. In some cases, groups decided to combine multiple yellow dots to cast one red vote.

Each table’s facilitator shared the conclusions of the breakout group discussion with the full group. During the report-out, the HR&A Team “live-dotted” each table’s large red and green dots at the front of the room to depict a real-time summary of the self-diagnostic.

Overall, participants identified the following drivers as those of greatest strength and those most in need of improvement:²

Top Strengths

- Ensures continuity of critical services
- Meets basic needs
- Promotes cohesive and engaged communities

Areas for Improvement

- Provides reliable communication & mobility
- Fosters economic prosperity
- Ensures social stability, security, & justice

As each group presented, Jee Mee Kim prodded participants to gain additional insight regarding each groups’ rationales and the issues each table confronted in the midst of the consensus-building process. She also asked teams to elaborate on the relationship of the systems and the strengths and weaknesses.



Image 5. Participants share Exercise 3 breakout group discussion outcomes.

Following the City Resilience Diagnostic, participants launched into the fourth and final Exercise, Key Stakeholders and Related Initiatives. Facilitators led groups in a rapid brainstorming session to identify a list of stakeholders who participants felt should be involved in the strategy development process moving forward. Each table also generated a list of plans and initiatives which relate to resilience and could be leveraged in the strategy process. Participants used pink sticky notes to identify stakeholders and purple ones to list plans and initiatives. Each table then clustered the notes by category on a large flip chart sheet.

² Facilitators reported disparate results from the full-group CRF as illustrated. According to facilitators’ individual responses, the third-greatest area for improvement was “Promotes cohesive & engaged communities.” Forthcoming efforts should examine further.

Workshop Engagement & Logistics

Generally, workshop execution was smooth with minimal issues. The HR&A Team arrived in Tulsa on Thursday, one day prior to the workshop, to supervise venue set-up and prepare final materials. HR&A and 100RC convened to finalize the master presentation, confirm activities supporting the Run of Show, and prepare the venue with necessary materials, supplies, and table configurations. The team did run into an issue on Exercise 3, where different versions of the CRF were used in the instructions and the large-scale print-outs. This was a function of different versions being available on the 100RC Strategy Partner Dropbox and confusion across the program team on which version to use. Both HR&A and 100RC have worked together to ensure all versions are up to date.

The workshop benefitted from a strong group of facilitators, who contributed to high-quality table discussions. The City Team identified an excellent group of individuals, as they represented a range of organizations across Tulsa and were well-regarded for their leadership skills. To prepare facilitators, Jee Mee Kim of HR&A held two training calls the week prior to the workshop in addition to conducting a refresher training immediately prior to the start of the workshop on Friday morning to familiarize facilitators with Exercise content and materials. For future workshops, facilitators may benefit from having a more involved in-person training the day before the workshop, giving them the chance to actually walk through the exercises, organize their approach and ask questions of the team.

Stakeholder Representation

Since resilience risks and solutions extend beyond the scope of the City government and boundaries, incorporating a range of stakeholders into Tulsa's resilience strategy planning process is critical to its success. Based on guidance from the HR&A and 100RC Teams, the City Team assembled a diverse list of internal (City) and external (non-City) stakeholders to invite to the workshop.

City representation consisted of 13 senior staff members from 12 agencies, one City Councilor, and an Advisory Board Chair. Non-City stakeholders included eight quasi-public authorities; three regional entities (including the State, Tulsa County, and a city outside Oklahoma); and two federal agencies. Representation across other sectors included four higher education, vocational and research institutions; two public school systems; one healthcare system; one philanthropy; three religious organizations; six community development and social service organizations; and seven private entities representing the fields of architecture, engineering, and planning; private utility; and real estate. Three Platform Partners provided representation, as well as one Strategy Partner engaged with another 100RC Member City.

City Involvement

The City Team was involved in all aspects of the workshop planning and delivery process. HR&A, 100RC, and the City worked closely together to design the workshop in accordance with 100RC methodology and the City's needs, tailoring certain Exercises as necessary. The HR&A and 100RC Teams traveled to Tulsa in late August for a kick-off meeting with the City Team to discuss workshop content, logistics, and the invitation list, after which all aspects of workshop planning advanced quickly. The City produced the final stakeholder list and was responsible for distributing invitations. One improvement for the next workshop would be to have the city personally call key stakeholders who did not RSVP one week before the workshop. This extra effort may have increased the total attendance at the Tulsa workshop.

2 City Profile Overview

The City of Tulsa, located within Tulsa County and the Tulsa Metropolitan Statistical Area (MSA), covers approximately 197 square miles, slightly under three percent of the state's land area (2010 U.S. Census). Tulsa's residential population was 391,906 in 2010 and estimated to be 399,682 in 2014; the City calculated its own population at 395,442 in 2012 (U.S. Census; City of Tulsa).ⁱ In 2010 Tulsa was the 46th most populous city in the United States and the second most populous in the State of Oklahoma following the capital, Oklahoma City, and ahead of Norman, Broken Arrow, and Lawton.ⁱⁱ The U.S. Census revealed that Tulsa's population decreased by 0.3 percent in the ten years since the 2000 Census, while the four other most populous cities grew.ⁱⁱⁱ At the last Census, the city's population density was 1,992 people per square mile, as compared with nearly 55 in the state overall. The Tulsa metropolitan area comprises over 28 percent of the state's population.^{iv}

From the 1830s through the early 1890s, the Tulsa region was a self-governed refuge for the Creek, Cherokee, Seminole, Quapaw, Seneca, Shawnee, Chickasaw, and Choctaw Tribes following land swaps with the federal government in accordance with the 1830 Indian Removal Act. Governance of the area changed from tribal to individual ownership with the onset of white settlement, extension of the St. Louis and San Francisco Railroads, and establishment of the cattle ranching industry. Tulsa served as a trading post beginning in the 1860s and established itself as a shipping origin and intermediary for the cattle trade. The city was incorporated in 1898 and adopted its state-approved charter in 1909.^v At the turn of the twentieth century, Tulsa's downtown expanded into a full-fledged city of oil prospectors and their families; the city increased in population and relevance with continued oil discoveries and the proliferation of related infrastructure and businesses. During the 1920s, as the oil industry expanded, the aerospace industry also took root, while defense-related work and factory conversions emerged during the 1940s in response to World War II, in large part thanks to the relevance of aviation and oil machinery to weapons and vehicles production. The wartime activity spurred construction manufacturing post-war.^{vi}

Once considered the "Oil Capital of the World," Tulsa upholds its storied oil- and gas-producing legacy today with three oil and gas companies of 1,000 or more employees (City of Tulsa, 2015 Tulsa Largest Employers List). Tulsa's economy continues to rely significantly upon aviation and aerospace, with three times the number of aerospace parts manufacturers in the MSA as compared with national figures, and 70 aviation-related companies in the city alone (Downtown Council, City of Tulsa).^{vii} American Airlines' Maintenance Repair and Overhaul unit is the city's prime employer in the industry, in addition to two 1,000-employee companies providing aircraft equipment and maintenance services.^{viii} Casinos and telecommunications serve as economic anchors, with the Osage and River Spirit Casinos, AT&T, Verizon, and DirecTV employing over 1,000 as well.

Tulsa boasts a diverse population, which as of the 2010 Census consisted of 62.6 percent white (57.9 percent white exclusive of Hispanic/Latino), 15.9 percent African American, 14.1 percent Hispanic or Latino, 5.9 percent two or more races, 5.3 percent American Indian, and 2.3 percent Asian (based on a total population of 100 percent). Nearly ten percent of the population was foreign-born – well above the 5.5 percent of foreign-born statewide – and a significant percentage – 15.2 percent – speak a second language in the home, as compared with the state's 9.4 percent (2009-2013 ACS). Among the City's significant tribal population, Cherokees comprise the largest group, though the Choctaw and Muscogee/Creek Tribes also have over 1,000 members (2009-2013 ACS).^{ix} Historically, North Tulsa comprised a majority African American population, originating as settlers with tribes either as freemen or slaves, or later seeking commercial and oil-related labor opportunities. East Tulsa contains the largest Hispanic/Latino population, which is over ten percent Mexican, 1.5 percent Puerto Rican, and 1.3 percent Central American, including a sizeable undocumented population (U.S. Census 2010). Among its Asian population, the 2010 Census included approximately 1,800 Asian Indians, 1,600 Vietnamese, and 1,300 Chinese, with over 500 Burmese, Filipinos, Hmong, and Koreans each.^x In the years since the Census, Tulsa has welcomed Burmese refugees in large numbers seeking political stability and religious freedom.^{xi} Racial sensitivity persists in the wake

of the 1921 Tulsa Race Riot, during which thirty-five square blocks were destroyed among the city's African-American neighborhoods.^{xii}

Tulsa maintains an excellent standard of living for residents. Median annual earnings for 2013 were estimated to be approximately \$27K, as compared with the state's \$24K per-capita income and comparable to the \$28K national figure; according to Tulsa's Young Professionals, the city's income per capita ranks more than 20 percent above the national average (ACS 2009-2013). In 2015 Forbes ranked the city among the top twenty most affordable municipalities nationwide, and in 2014 Kiplinger ranked Tulsa as the fifth most affordable big city in the U.S., as well as the fourth most affordable for renters in 2013.^{xiii} The city's median gross rent estimate was \$727, similar to the state's \$699 and well below the \$904 national estimate (2009-2013 ACS). According to the Downtown Coordinating Council, steward of downtown improvement and economic growth, the cost of living in the Tulsa MSA is nearly 12 percent less than the national average, while the cost of doing business is almost 15 percent below average, and the fifth-lowest, nationally.^{xiv} In 2014 NerdWallet placed Tulsa in the top half of the 100 U.S. cities with the highest quality of life.^{xv} The City maintains its entrepreneurial spirit and was Forbes' number one "Best City for Young Entrepreneurs" in 2013.^{xvi}

Despite its affordability for individuals – particularly renters – and businesses, Tulsa's households lag behind the state and nation for income and employment. Though Tulsa's labor force is larger than that of the state or U.S. (65.4, 61.5, and 63.8 percent, respectively), its median household income was estimated to be approximately \$41K, below the state's \$45K and \$53K in the U.S. (ACS 2009-2013). Similarly, the survey estimated 20.1 percent of the population to be below the poverty level, as compared with 16.8 percent statewide and 14.5 percent across the U.S. (2009-2013). Between 2000 and 2010 the number of housing units increased by 3.2 percent to over 185,100.^{xvii} However, the five-year estimate for the city's owner-occupied housing unit rate was only 53.3 percent, as compared with 67.1 percent in Oklahoma and 64.9 percent nationwide; the median value of these units was \$122,200 citywide, \$112,800 statewide, and \$176,700 nationwide (ACS 2009-2013). Though employment is robust, housing is less expensive, and housing units are in supply, relatively low household incomes persist as a barrier to homeownership. Additional concerns include insufficient transit, dispersed employment centers, and sprawling communities, all of which create challenges for job access by low-income residents.

The city's civic anchors include its four- and two-year higher education institutions: University of Tulsa, University of Oklahoma, Oklahoma State University, Oral Roberts University, Northeastern State University, Langston University, Spartan College, University of Phoenix and Tulsa Community College, and specialized vocational and technical schools including Tulsa Technology Center (part of the state's Department of Career and Technology Education, or CareerTech) and Oklahoma Technical College.^{xviii} The University of Tulsa, Tulsa Community College, and the University of Oklahoma Schusterman Center (specializing in medical education), as well as the Union and Tulsa Public School Systems, each employ at least 1,000 people, while Oral Roberts has over 500 employees (2015 Tulsa Largest Employers List). Given its university offerings, the City's educational attainment fares well as compared with national figures. 30 percent of the City's population aged 25 and older are estimated to possess at least a Bachelor's Degree (as compared with 23.5 percent statewide and 28.8 percent in the U.S.), while 86.8 percent graduated from high school in line with the state's 86.4 percent and national 86 percent rates (2009-2013 American Community Survey). The city is succeeding with early childhood education efforts with a pre-Kindergarten program viewed as a national model and studied in part thanks to considerable state funding (GPB News via NPR).^{xix}

Tulsa's arts and cultural institutions, namely the Gilcrease Museum and Philbrook Museum of Art, serve as anchors, as do hospitals and healthcare institutions, which are extremely significant sources of employment. The Hillcrest, St. Francis, and St. John Health Systems, OSU Medical Center, and Blue Cross/Blue Shield of Oklahoma employ over 1,000 employees each (2015 Tulsa Largest Employers List). The philanthropic sector, including the Tulsa Community, Helmerich, Schusterman, and Zarrow Foundations, is particularly strong. A Tulsa zip code, the seventh-wealthiest of twenty nationwide in 2012, was singularly "rank[ed] among the top 1,000 ZIP codes that gave the largest percentage of discretionary income to charity,"

and the Tulsa Community Foundation reported the second largest number of assets among 285 community funds surveyed nationally in 2014 (*The Chronicle of Philanthropy*).^{xx}

Since 1990 Tulsa has followed a Mayor-City Council form of municipal government. Presently governing the City are Mayor Dewey F. Bartlett, Jr., the 39th mayor currently in his second term, a City Auditor, and nine-district Council.^{xxi} The City primarily receives funding through a sales tax, whereas the county government receives Tulsa residents' property taxes.

Despite a set of complex challenges, Tulsa has a strong set of assets, industry, anchor institutions, and commitment from City government to leverage during the resiliency journey.



4 “Resilience Narrative” for Tulsa

Defining Resilience

Exercise 1 provided workshop participants a forum to debate and gain exposure to interpretations of resiliency as a concept and, as attendees demonstrated, consider it as a causal process situated in time. Core definitions of resiliency included characteristic physical recovery from or preparation for shocks, mentioned 11 times during breakouts (see Exhibit 4.2). Descriptions included “weather[ing] the storm;” “bounc[ing] back from adversity” or “to [a] new normal;” “[comparison to the] Energizer Bunny;” “deal[ing] with natural disasters;” critical infrastructure repair; a vision or “strategic plan in place;” and the “ability not to take a hit and ‘bob and weave’ to avoid [trouble].”

While reactivity proved inherent in conceptions, accounting for a continuum of time horizons was a fundamental component of understanding resiliency, with explanations such as “different stakeholders at different scales aligning priorities for the long-term;” “[the] ability to deal with immediate, short-term environmental impact and long-term planning;” “how quickly you recover from an event;” awareness of “time and thoroughness;” and “keeping [critical infrastructure] open,” with the final phrase suggesting a continuum of resilient capabilities. “Long-term” appeared five times total in discussion outcomes (Exhibit 4.2). In addition to endurance as noted above, several groups addressed the continual progress required, both by “maintaining readiness every day” and “constantly addressing all areas of the city” – being simultaneously prepared for shocks and perceptive of stresses. Resiliency represented an “ongoing process [to] continue working at all times” for immediate and chronic susceptibilities alike.

Discussions demonstrated that people and systems should possess certain inherent qualities that will promote resilience. For community members, necessary traits to which to aspire as individuals included industriousness; adaptability and diversity; “anticipation and imagination, [e.g.] what to expect plus how to solve [problems];” “be[ing] pliable and creative;” perseverance; “reducing complacency;” “going against [the] status quo;” communication; and generally embracing the “Oklahoma work ethic.” Discussions also reached conclusions as to advisable conditions or requirements of citywide systems: redundancy; adaptability; stability as a fundamental consideration; diversification of community assets, particularly the economy, transit, measured growth, and a mix of housing offering quality and affordable living; business continuity; and strengthening communication mechanisms.

For resiliency as its objective, a city must consider itself collectively through “comprehensive [approaches to] how we work together” for which “everybody has a role and responsibility.” People are highly susceptible and cannot go it alone, but rather serve a “role in reducing vulnerabilities at the community level” and uniting to increase security. Of note was one group’s contradiction of this prevailing thinking and preference for “someone else, the government [or] a committee, [to do] this [and take] ownership” as a duty with which they are charged. Regardless, participants agreed that accountability – of individuals or government entities – must exist in resilient practices.

Conversations preemptively considered concrete strategies or mechanisms to achieve resilience. In this regard, discussions during Exercise 1 inadvertently began to touch on subsequent workshop lessons, a focus of Exercise 4. These conversations were an encouraging indication that participants had entered the workshop keeping in mind a range of constituent groups and understanding vulnerabilities necessary to address.

Rather than precautions against shocks, suggestions were largely structural responses to stresses. Discussions acknowledged overcoming social challenges by “acknowledg[ing] inequalities;” “increasing opportunities in underserved communities;” engaging in “social reconciliation [of] history;” “breaking down silos;” “chang[ing] mindset[s towards] inclusion;” harnessing the city’s “philanthropic community and many social service providers” as fundamental to its social resiliency; and promoting economic stability, in part by expanding

companies but also by considering new sources with which to fund resiliency. Overall, “addressing chronic stressors,” also raised ahead of corresponding exercises, would be paramount; participants flagged community members’ access to resources, education, and healthcare; housing and its correlation to job opportunities; mental health; and “institutional intolerance [or] racism.”



Exhibit 4.1. Word cloud summary of resilience definitions during Exercise 1.^{xxii}

Exhibit 4.2. Total mentions during Exercise 1 discussions of resiliency

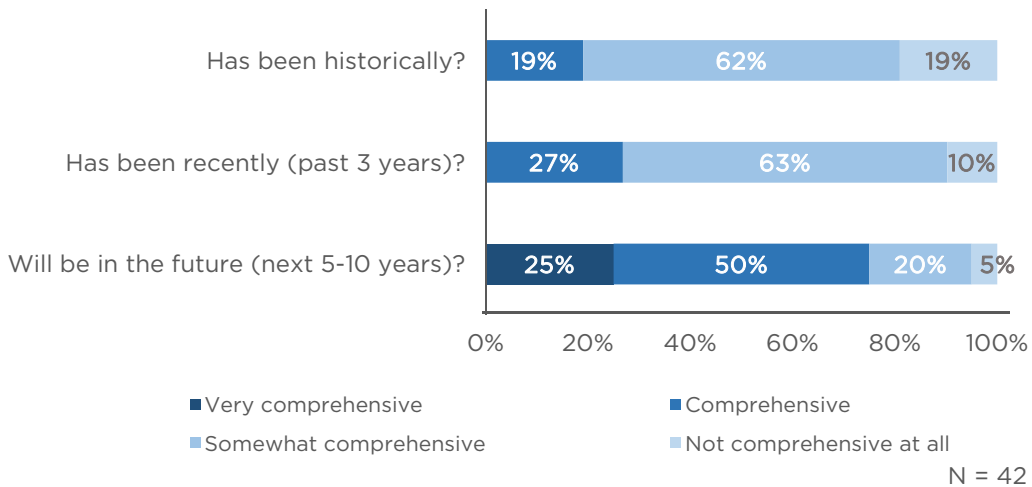
11 shock	3 maintain	2 funding
9 community	3 mitigate	2 get
9 plan	3 opportunity	2 housing
7 resilience	3 philanthropic	2 ice
5 disaster	3 service	2 infrastructure
5 long-term	3 social	2 key
5 provide	3 storm	2 many
5 stressors	3 time	2 must
4 ability	3 weather	2 natural
4 build	3 work	2 need
4 health	2 big	2 public
4 ready	2 bounce	2 react
4 recovery	2 dept	2 recover
3 Tulsa	2 different	2 reducing
3 all	2 fire	2 respond
3 back	2 access	2 role
3 chronic	2 addressing	2 sales
3 do	2 adversity	2 short-
3 event	2 between	2 stresses
3 help	2 city	2 stronger
3 impact	2 complacent	2 support
3 issue	2 continue	2 tax
	2 deal	2 unknowns
	2 definition	2 vision
	2 focused	

Pre-Workshop Resilience Perspectives

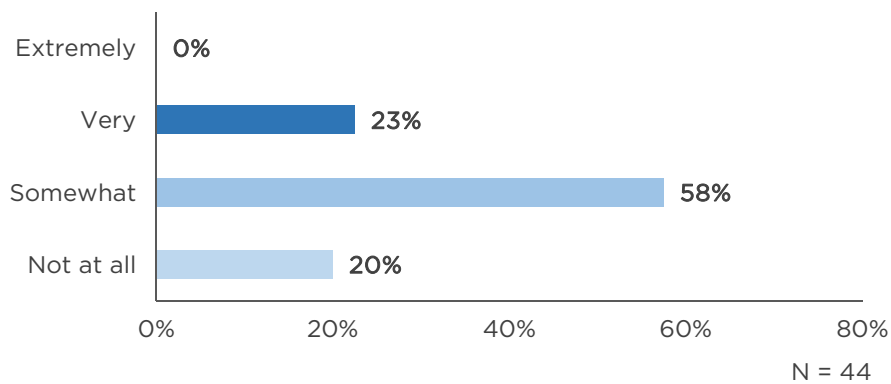
Based on the results of the Pre-workshop Survey, participants revealed that Tulsa has been moderately successful at incorporating resilience and improving its strategies, but can harness this opportunity to accomplish greater resilient planning and outcomes. The following questions demonstrate Tulsa’s moderate position thus far:

Q5. From the options below and considering the topics in previous questions, how comprehensive do you think Tulsa’s resilience...

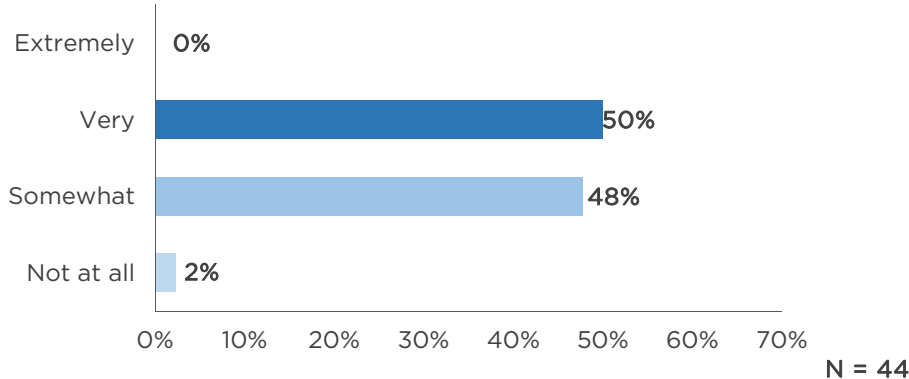
- a) has been historically;
- b) has been recently (past 3 years); and
- c) will be in the future (next 5-10 years)?



Q7. How prepared was Tulsa for winter 2007-2008 ice storms? (Please pick one)



Q8. How prepared is Tulsa for a similar event today? (Please pick one)



The answers suggest that Tulsa is in a strong position, and that its prior work will certainly help launch strategies further, provided proper technical assistance and support, as shown by the fact that it has already learned tremendously since the winter storms eight years ago. Though Tulsa has not yet reached “extreme” preparedness, since the time of the 2007/2008 ice storms, the percentage of respondents who felt Tulsa would be “very” well prepared today more than doubled, and attitudes that the City was not prepared at all decreased by tenfold, demonstrating an astounding increase in Tulsans’ confidence in the City (Q7-Q8). Respondents were largely optimistic about the near-term as well; one-quarter of respondents predicted the City’s resiliency approaches would be fully comprehensive in the next five to ten years (Q5). The hope for Tulsa’s strategy engagement will be for the 100RC process to amplify even more so the feeling of utmost confidence in the City’s ability to confront shocks, and not only ten years from now, but perhaps sooner.

Respondents also entered the workshop with an abundance of ideas and initiatives currently in existence and with potential to strengthen Tulsa’s social cohesion and economic opportunities (Appendix G, Q4). This extensive list of organizations, policies, and suggestions fall under critical themes, including raising public awareness, improving infrastructure and hazard mitigation, helping vulnerable populations, invigorating economic development, or fostering cooperation among distinct parties, combined with the lengthy list of stakeholders and plans compiled swiftly during the workshop (Appendix E, Exercise 4) and facilitators’ feedback summarizing table discussions (Appendix F) All suggest the vigor of and grassroots motivation for Tulsa’s civic life. Several times powerful words such as “visionary” and “leader” presented themselves, not only to describe potential stakeholders but also as current assets (Appendix G, “Q3. What are the key assets that make Tulsa resilient today?”).

Resilience Self-Assessment

Exercise 3, the City Resilience Diagnostic, transitioned participants from considering discrete acute and chronic pressures on Tulsa’s resilience to reflecting holistically upon the City’s ability to fulfill its obligation to support and provide for its residents. This exercise required workshop participants to evaluate Tulsa’s performance in relation to 12 drivers, criteria indicative of healthy urban governance and quality of life, as demonstrated by the 100RC City Resilience Framework (CRF) tool. Facilitators synthesized their respective breakout groups’ assessments of Tulsa’s capacity to provide this foundation. The following CRF (Exhibit 4.3) and corresponding summary (Exhibit 4.4) and graph (Exhibit 4.5) illustrate the full-group report-out of participant perceptions of Tulsa’s strengths and areas of weakness. Each group was required to draw out only the top 3 areas of strength and the top 3 areas of weakness within their tables. Facilitators further detailed breakout groups’ preferences in exercise synopses completed at the workshop’s conclusion, and these results follow (Exhibit 4.6-4.7).³ (Appendix E, Exercise 3 details figures).

³ Facilitators’ summaries of workshop outcomes varied slightly from the CRF generated during the full-group discussion.

Exhibit 4.3 CRF Summary of Workshop Results⁴

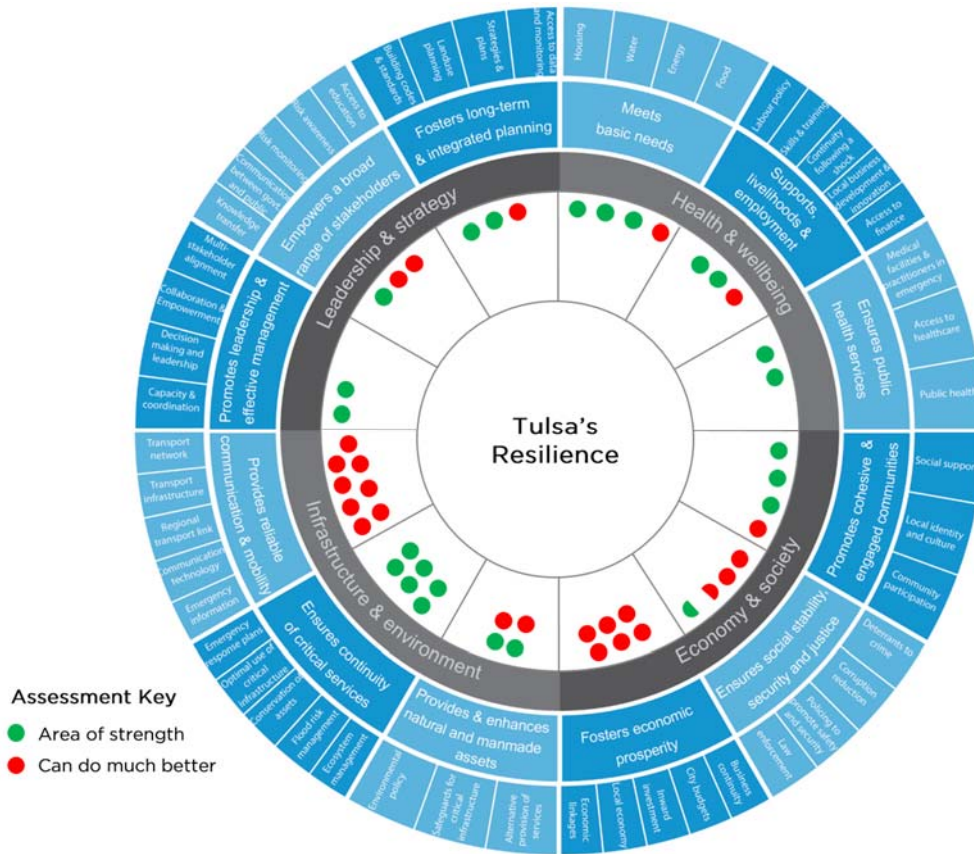


Exhibit 4.4. Summary of Workshop Results

Driver	Area of strength	Can do much better
Ensures public health services	2	0
Promotes leadership & effective management	2	0
Supports livelihoods & employment	2	1
Fosters long-term & integrated planning	2	1
Empowers a broad range of stakeholders	1	2
Ensures social stability, security, & justice	0.5	2.5
Meets basic needs	3	1
Promotes cohesive & engaged communities	3	1
Enhances & provides natural & man-made assets	2	2
Ensures continuity of critical services	6	0
Fosters economic prosperity	0	6
Provides reliable communication & mobility	0	8
Total	23.5	24.5

⁴ No yellow dots appear on the final CRF because the final table discussions ultimately required participant groups to be decisive, rather than neutral or mixed, in selections and provide more meaningful results to illustrate prioritization.

Exhibit 4.5. Workshop Report-Out of CRF Synthesis⁵

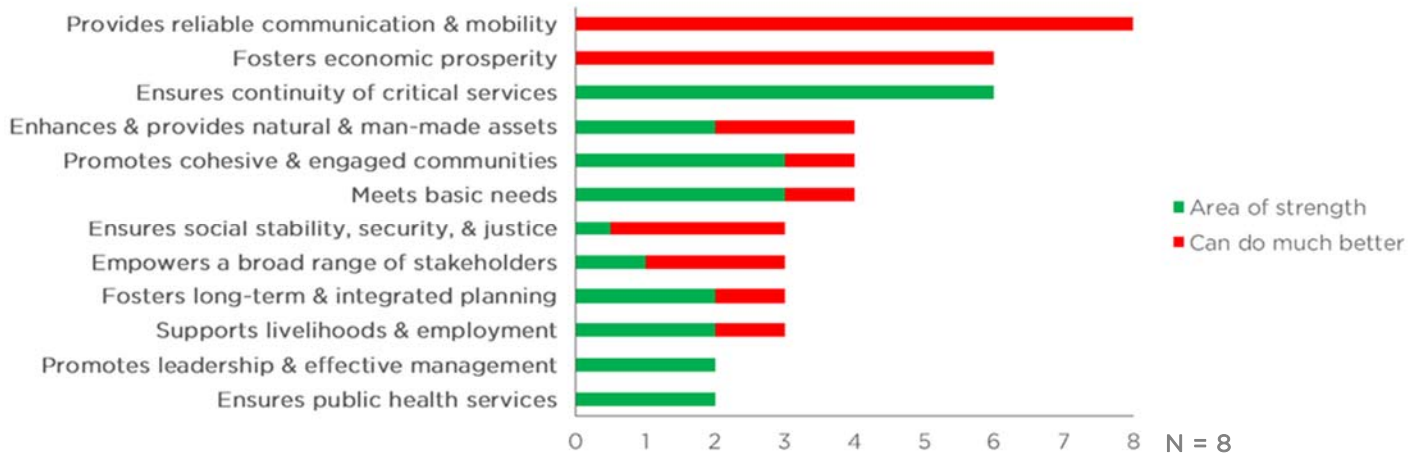


Exhibit 4.6 Individual Facilitator Responses for Areas of Strength⁶

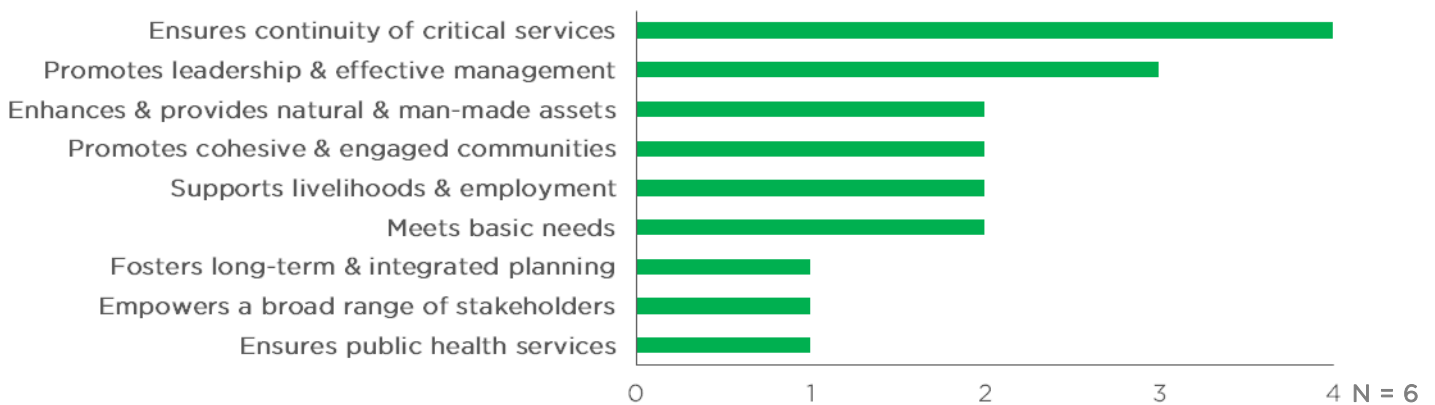


Exhibit 4.7. Individual Facilitator Responses for Necessary Improvements⁷



⁵ Facilitator report-outs during the workshop (A.) and responses at its conclusion (B.) provide slightly different figures, so both are provided.

⁶ Totals do not include three drivers from every respondent; responses without mention of a specific driver are represented by the closest proxy.

⁷ Two options were provided for one answer; based on a respondent's explanation, one answer was reallocated to a different category than the one stated; responses without mention of a specific driver are represented by the closest proxy. Two descriptions [i.e. sub-drivers] from one facilitator translated to the same driver and were counted individually.

Strengths

- **Ensures continuity of critical services:** Four of six facilitators reported the city's ability to "ensure continuity of critical services" as a strength, according to breakout group discussions. CRF results from all eight groups' in-workshop reporting brought the number to six, significantly increasing from two-thirds to three-quarters of breakout groups sharing the perception that Tulsa is well-equipped to sustain operations despite interruptions. Specific qualities of this driver as defined by the CRF include redundancy, diversity, and proactive management and planning with respect to infrastructure, assets, and emergency response. Thus, while Tulsa may be vulnerable to chronic issues, incredible confidence persists concerning its preparedness for and resistance to immediate, drastic damage.
- **"Health & Well-Being:" Meets basic needs; supports livelihoods & employment; and ensures public health services:** According to more than half the breakout groups, Tulsa's strengths stem from this foundational driver category, and participants sensed that the City fulfills its role to citizens in providing basic needs and jobs. The many healthcare facilities, accessibility of medical services, positive perception of small businesses' stability, and low unemployment rate all support Tulsans' perception that their city is, according to one response, "great at the basics," if "not as great at more sophisticated quality of life issues." Along these lines, half of the participant groups felt confident about the City's ability to maintain critical services immediately after shocks thanks to its "world-class first responders."

Challenges

- **Provides reliable communication & mobility:** All eight tables expressed concerns about Tulsa's transportation system and uneven access to communications technology. Participants characterized Tulsa as an auto-dominated city where carless residents faced enormous challenges accessing jobs and services. Residents "within poverty range," with disabilities, or dependent on the bus system were at particularly serious risk from unreliable and inefficient transit. "Unequal access" to communication, including technology, is perceived as persistent.
- **Fosters economic prosperity:** Many participants emphasized the need for Tulsa to promote economic growth and diversification. Nearly all facilitators mentioned the need for "finance, including contingency funds," which echoed participant concerns about the City's reliance on sales tax and the need to diversify revenue sources. Participants' concerns centered on the City's questionable ability to support itself with its own arsenal, independent of other regular funding entities, such as large employers and philanthropies. As one facilitator commented, "Tulsa must invest in itself," and another described the government's "revenue streams [as] fragile and volatile."

Strengths or Challenges | Outstanding Debate

Notably, based on facilitators' synthesis of group rankings, participants were split between optimism and pessimism on several drivers, which suggests a need for future conversations to examine these discrepancies and identify key areas for the City to focus on:

- **Promotes cohesive & engaged communities:** Participants expressed the need to increase "social cohesion" while remarking on the strength of philanthropy, collaboration, and participation among residents in part thanks to thriving neighborhood associations and faith-based groups.
- **Enhances & provides natural and man-made assets:** Facilitators highlighted "provides and enhances natural and manmade assets," quality sewer and storm water systems, and "robust" emergency response practices. However, mitigating vulnerability was also

noted as a problem, especially in relationship to transit infrastructure, land use planning, and green space.

- **“Leadership & Strategy:” Promotes leadership & effective management; empowers a broad range of stakeholders; fosters long-term & integrated planning:** Respondents mentioned opportunities to further collaborate with higher education, consisting of several institutions which are well-coordinated and amenable to work with. The City can continue to build on its ability to plan effectively, “even though we haven’t ‘arrived’”. At the same time, respondents suggested an enduring “ol’ boy system” that may exclude newer voices from decision making, as well as the need for regional coordination in development for “managing our collective ... ability and impact for improving all components” of the CRF. Some commented on the absence of long-term approaches to city planning, implementation funding, and updated building codes.
 - **It is worth noting that while “promotes leadership and effective management”** received mixed responses, according to facilitators, considerations of the driver as a strength outnumbered those which perceived leadership as a weakness. The full-group synthesis, in fact, yielded only green dots. Stakeholder engagement and long-term planning may elicit mixed reactions, but on the whole participants generally expressed confidence towards city government’s leadership capabilities and operations.

5 List & Assessment of Key Shocks & Stresses

As of the workshop, 48 participants completed a pre-workshop Survey regarding Tulsa’s top shocks and stresses in the near- and long-term (five to ten and 50 to 70 years, respectively).⁸ Participants later ranked these factors collectively during the workshop. The results of both pre- and in-workshop activities follow.⁹

Pre-Workshop Survey Results¹⁰

Priority Shocks

The survey asked participants to prioritize the same set of shocks for different time horizons. The absolute number of each selection, regardless of individual attributions of level of importance, determined the highest priorities among respondents as provided below.

Near-Term Shocks & Frequency of Selection

- **Tornadoes/wind storms: 20**
- **Infrastructure or building failure: 8**
- **Flooding: 7**
- **Drought/water shortages: 5**
- Snow/winter storms: 3
- Hazardous materials accident 1
- Riot/civil unrest: 1
- Terrorism/security: 1

N = 47

Long-term Shocks & Frequency of Selection

- **Tornadoes/wind storms: 14**
- **Flooding: 7**
- **Behavioral health: 6**
- **Infrastructure or building failure: 6**
- **Drought/water shortages: 5**
- **Extreme temperatures: 5**
- **Riot/civil unrest: 3**
- **Terrorism/security: 3**
- **Hazardous materials accident: 2**

N = 45

Respondents appeared confident in the reduction of severity of impact of future **tornadoes and wind storms**. However, **extreme temperatures**, which were no concern in the near-term, rose dramatically in frequency of responses. Increasingly severe and more frequent weather events seem to be at the forefront of respondents’ minds, though **snow and winter storms** were a considerable concern in the near- but not the long-term and thus might be more easily

⁸ As of the workshop material print deadline, 43 respondents had completed the survey, and the workshop presentation featured these results. However, as of the workshop the number of survey submissions increased to 48. Results of all 48 respondents are included in the report and thus may differ slightly from figures presented during the workshop.

⁹ Options receiving no responses do not appear in the results of this section. For detailed figures please refer to Appendix G.

¹⁰ Color shades represent general frequency of response. Categories with more frequent mentions are progressively darker on the spectrum. The following ranges correspond to shade distinctions: {1-4}, {5-10}, {11-20}, and {20+...}.

dealt with during future storms.¹¹ Overall, near-term shocks continued to be long-term concerns.

Priority Stresses

As with shocks, participants identified the same set of stresses in the near- and long-term.

Near-Term Stresses & Frequency of Selection

- Aging infrastructure: 28
- Education quality & access: 22
- Transportation network quality: 21
- Crime/safety: 19
- Economic diversity & vibrancy: 19
- Poverty/income inequality: 19
- Healthcare: 13
- Diversity/inclusiveness: 12
- Homelessness: 9
- Water quality: 5
- Affordable housing: 4
- Energy affordability/continuity: 3
- Environmental degradation: 3
- Land use & availability: 3
- High unemployment: 2
- Tree health/invasive species: 1

Long-term Stresses & Frequency of Selection

- Aging infrastructure: 29
- Transportation network quality: 20
- Education quality & access: 19
- Poverty/income inequality: 17
- Economic diversity & vibrancy: 15
- Crime/safety: 12
- Healthcare: 11
- Diversity/inclusiveness: 8
- Energy affordability/continuity: 7
- Environmental degradation: 7
- Water quality: 7
- Affordable housing: 5
- Homelessness: 4
- Land use & availability: 4
- High unemployment: 3
- Insect-borne disease: 2

Aging infrastructure; education quality and access; transportation network quality; poverty and income inequity; healthcare; and crime and safety all remained the utmost concerns among respondents for both time horizons. Encouragingly **homelessness; economic diversity and vibrancy; crime and safety; education quality and access; and diversity and**

¹¹ It should be noted that behavioral health was mistakenly not offered as an option for near-term selections, so the category is not useful for drawing comparisons.

inclusiveness lowered significantly (at least three votes) between near- and long-term. The number of respondents did grow significantly between near- and long-term for **environmental degradation; energy affordability and continuity; and insect-borne disease**, which did not gain three votes but had not appeared at all in the near-term. Responses suggest apprehension about the status of energy and the environment in the years to come. As with the shocks, the concerns selected mostly stayed the same among near- and long-term time frames.

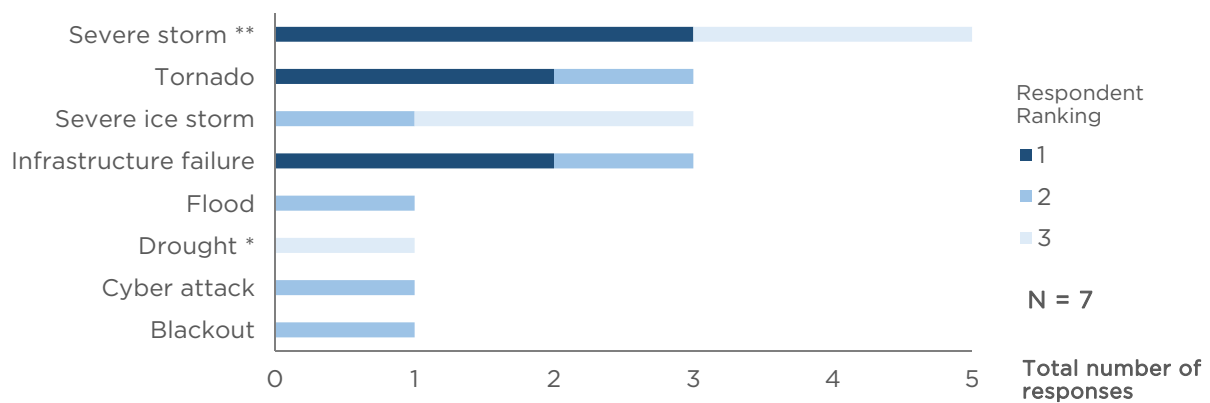
In-Workshop Exercise 2 Results



Image 5.1. Participants consider Tulsa's shocks and stresses during Exercise 2.

Top 3 Acute Shocks

Participants ranked their top three acute shocks. The order below reflects the total participant response count for each shock, regardless of ranking, as reported by facilitators.¹²



* Drought also included as shock

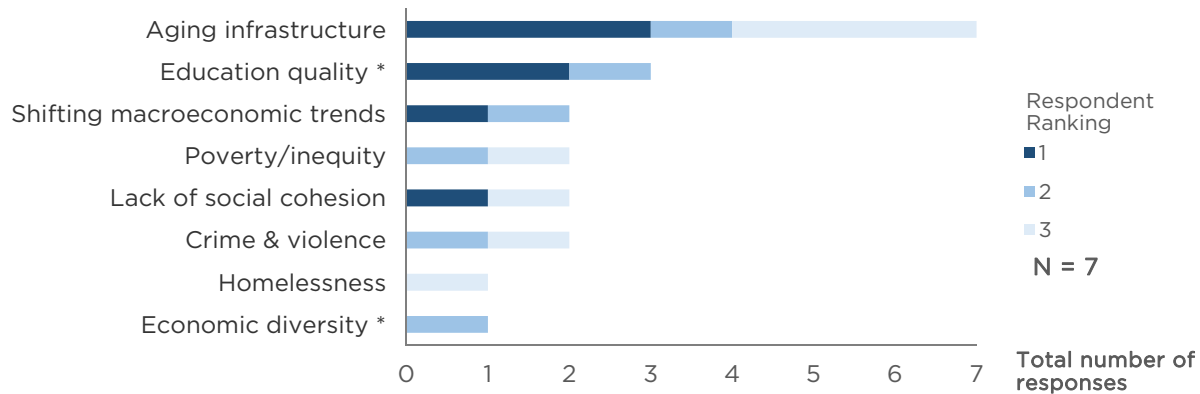
** Responses include "severe weather" within category; one response referring to all 3 rankings was counted within the same category only once

¹² Totals do not include 3 shocks from every respondent.

- **Severe storms**, inclusive of severe weather, gained the greatest number of votes with nearly a third of facilitators reporting their group’s results as such.
- **Tornados, severe ice storm, and infrastructure failure** were close behind in terms of frequency of mentions, and hence participants’ concern overall.

Top 3 Chronic Stresses

Participants also ranked their top three chronic stresses. The order below reflects the total response count for each stress, regardless of ranking, as reported by facilitators.¹³



* Categories added from Pre-workshop Survey

- **Aging infrastructure** was a critical issue among every breakout group, an indication that the City must step in to troubleshoot what is considered a pervasive problem.
- **Education quality** and **economic diversity**, not included as stress card category options, nonetheless appeared among respondents’ concerns, with education quality receiving the second-most number of mentions.
- **Crime and violence; lack of social cohesion; poverty and inequity; and shifting macroeconomic trends** were equally mentioned as moderate difficulties.

Summary of shocks & stresses

Tornados factored similarly into participants’ survey responses in the near- and long-term as in the exercise. **Infrastructure failure**, a short-term symptom of a long-term stress, was a significant shock consideration in the survey and exercise responses alike. **Snow and winter storms**, while reduced in levels of concern over time, proved to be significant shocks during the workshop, as breakout groups noted **severe ice storms**.

Aging infrastructure (in particular transportation as noted in the Pre-workshop Survey) and **education quality and access** were consistently among the most pressing concerns across survey and Exercise 2 results. **Poverty and inequity, crime and violence, homelessness, and economic diversity** were somewhat common mentions among survey responses in both near- and long-term scenarios yet received a fair number of mentions during the exercise.¹⁴ Moreover, several predominant shocks and stresses in the survey were not raised extensively within

¹³ Totals do not include 3 shocks from every respondent; responses include 2 options provided for one facilitator ranking and one selection total from another facilitator.

¹⁴ A significant caveat to the shocks and stresses activities is that the pre-workshop survey and workshop exercise categories do not align precisely, and that survey response options outnumber the categories during the exercise, while other categories appear as exercise options but not in the survey. Thus these comparisons are imperfect and should be taken into consideration as guiding indicators only.

participant discussions, including **flooding, drought, and economic diversity**. Nonetheless, their selection among exercise options overall is useful to demonstrate general consensus across initial survey perceptions and workshop discussions.



5.2. Exercise 2 results from one breakout group visually represent the perceived interdependencies and causalities among shocks and stresses and within each of themselves.

6 Preliminary Overview of Plans & Initiatives Relevant to Resilience

The City of Tulsa and surrounding region have taken considerable precautions to manage and mitigate hazards and extreme weather events, in addition to addressing other major facets of urban living. The following list summarizes critical reports and initiatives related to the environment at municipal and regional levels, including efforts by local non-government partners. In particular, the Indian Nations Council of Governments (INCOG), a metropolitan-area association for local and tribal governments and regional planning, is provides a depth of knowledge about myriad area initiatives.^{xxiii}

- Resilience AmeriCorps:** In August 2015, Tulsa joined a cohort of U.S. cities as part of a joint initiative, first proposed by the federal State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience, with The Rockefeller Foundation and the Corporation for National and Community Service as primary sponsors and several federal agencies contributing. Tulsa's selection as one of ten Resilience AmeriCorps member cities equips it with technical assistance and funding specifically related to volunteerism directed towards resiliency planning for low-income populations. Tulsa's designation, "based on regional and local vulnerability, commitment and progress to date from mayors to resilience efforts, and City Hall capacity," demonstrates the leaps Tulsa has already taken and should embolden the City to carry out bold ideas with a robust federal and philanthropic safety net. The Resilience Project Manager hired will serve to support the CRO's efforts over the two-year endeavors.^{xxiv}
- Department of Sustainability:** The City's 2010 creation of a department dedicated solely to sustainability moved the needle even further and demonstrated the gravity with which Tulsa is poised to take on energy initiatives, which could incorporate resiliency components.^{xxv}
- City of Tulsa Sustainability Plan: Resource Efficiency, Clean Energy, & Leading Growth in the New Economy,** prepared by URS for the City of Tulsa and released October 2011, serves as an up-to-date outline of recommendations for energy and resource use reduction. The Plan bills itself as "a new way of thinking about how the City consumes energy, water, and other resources" through more than sixty sustainability initiatives, supplemented by case studies, for the City to pursue. The Plan places emphasis on the flexibility of its utility over time with changing conditions. The Plan notes major sustainability projects undertaken thus far and articulates the vision of the recently established Sustainability Department.^{xxvi}
- Multi-Jurisdictional Multi-Hazard Mitigation Plan Update-2015,** focused on Tulsa County, presents prior mitigation recommendations and discusses the County's recent selection of action items to pursue in coordination with a number of town and school districts.^{xxvii} Based on risk assessments provided for a variety of natural and manmade hazards, the County put forth 89 initiatives for which to seek funding and subsequently conduct benefit-cost analyses. Proposed actions included levee repair and/or replacement; establishment of a Regional Interactive Emergency Operations Center; relocation of social services, a garage, and Parks Administration agency from the County's 100-year floodplain; and upgrades to and installation of additional outdoor warning sirens. Coordination of certain hazard mitigation actions by the County and partnering town and school districts would necessarily involve the City of Tulsa.
- Tulsa Multi-Hazard Mitigation Plan:** The City has revisited its own hazard mitigation plan, first issued in 2002 with updates in 2009 and 2014, for submission to the Oklahoma Department of Civil Emergency Management.^{xxviii} Notably, the City released a new floodplain map exposing hazard levels related to dam-induced flooding.^{xxix} Collaborators included planning consultants Flanagan & Associates, LLC; public safety

and emergency management consultancy James Lee Witt Associates; a Citizen Advisory Board; government technical advisors; and nonprofit Tulsa Partners, Inc.

- Program for Public Information (PPI):** In December 2014, Tulsa Partners, Inc. assumed directorship of a community outreach development process as part of the National Flood Insurance Program-sponsored Community Rating System with which Tulsa was involved. A committee of City technical advisors previously involved in the City’s 2014 hazard mitigation plan (mentioned above) established the effort, as PPI emerged as a potential endeavor during a Technical Advisory Committee meeting for the Plan.^{xxx} The result of PPI was a range of suggested outreach and flood-related projects for implementation described by target audience and parties or stakeholders involved.
- Tulsa Area Clean Cities Coalition:** Representing the eastern half of the state and hosted by INCOG with federal support, the organization seeks to promote clean energy usage in transportation.^{xxxi} Among its members are the City of Tulsa and a substantial number of entities directly affiliated with the City, including Metropolitan Tulsa Transit and Tulsa Airport Authorities, several Tulsa-based education institutions, utilities, the County, State departments.
- Green Country Stormwater Alliance:** Similarly, the City has membership in a regional alliance dedicated to facilitating stormwater permitting and technical assistance. The Alliance requires development by its members of a full program of best practices for achieving U.S. EPA standards.^{xxxii}
- Compressed Natural Gas:** The City has championed natural gas as a resource that should proliferate with City support.^{xxxiii}
- U.S. Department of Energy Efficiency Conservation Block Grant Program:** A number of energy-focused efforts stemmed from the City’s 2010 receipt of a federal Department of Energy grant. These projects have involved facility retrofits, geothermal conduction, and lighting improvements; auditing; revolving loans; feasibility studies; and issuance of the City’s Sustainability Plan (described above).^{xxxiv}

Tulsa has prepared robust long-term citywide objectives and plans. Importantly, the City’s significant plans and ongoing initiatives should be taken into consideration within the 100RC strategy development process:

- Tulsa Comprehensive Plan, or PLANitULSA,** released July 2010 and updated October 2014 as a joint effort among the City, County and George Kaiser Family Foundation, has established the foundation on which Tulsa’s recent land use, planning, development, and community work depends for guidance and allowance.

With the Plan’s adoption, the City has launched numerous smaller, site-specific endeavors, in addition to broader strategic changes, all of which are intended to take place within a structured timeframe and through a parallel **Strategic Plan**, first released Spring 2010, concretizing planning objectives.^{xxxv} The City is documenting its progress with complete and ongoing Small Area Plans (described below), zoning and other policy changes, and government restructuring proposed in the Comprehensive Plan and is taking the utmost care towards transparency and information provision in real time.^{xxxvi}

- Improve Our Tulsa:** As a result of a 2013 referendum prioritizing funding for streets, transit, and city facilities, the City issued General Obligation Bonds and extended a sales tax, with both dedicated to capital improvements. The initiative involved additional subsequent votes on the budget proposal and ultimately sought to carry out, among other needs, the City’s 2008 “Fix Our Streets” initiative.^{xxxvii} The City continues to promote transparency by mapping pipeline projects for infrastructure rehabilitation and replacement with a “Live Projects Map.”^{xxxviii}

- **Small Area and Neighborhood Revitalization Planning:** As part of the Comprehensive Plan and in conjunction with the Tulsa Development Authority, the City has undertaken over 15 small area projects in line with the Comprehensive Plan’s goals and continues with new community-specific and -guided planning efforts resulting in long-term Neighborhood and “Sector Area” Plan proposals.^{xxxix} The City is steadily working to develop and approve the Small Area Plans and in 2012 accepted four.
- **Downtown Area Master Plan:** Considered the City’s first Small Area Plan, implemented October 2010, and created jointly with the Tulsa Metropolitan Area Planning Commission, the Plan and two accompanying illustrative documents refer to “Downtown, Near Downtown, and Arkansas River Connections.”^{xi}
- **Zoning Code Update:** The City is in the process of reexamining its zoning codes as recommended in the Comprehensive Plan. In the first half of 2015, a zoning code draft update received public review and comments.^{xli} The City and Tulsa Metropolitan Area Planning Commission received a draft for review in August 2015, and the City convened a public hearing late September 2015 as part of the drafting process.^{xlii} The process has emphasized public participation, and public review resulted in a number of changes to the draft zoning proposal.^{xliii}
- **Complete Streets Resolution:** With passage of a Complete Streets Policy, suggested within the Comprehensive Plan, the City pledged “to create a comprehensive, integrated, and interconnected multi-modal network of complete streets for the City ... that supports sustainable development and balances the needs of all users in order to achieve maximum functionality and efficiency.”^{xliv} Resolution considerations, promoting pragmatism in decisions involving transportation, include public engagement and a “Context[-]Sensitive Approach” to transit in design.^{xlv}
- **Vision 2025: Foresight 4 Greater Tulsa:** The City and County conducted a series of visioning engagement events between 2002 and 2003 that united their efforts for planning and identification of projects for funding. Ultimately 32 projects jointly received \$885 million to fulfill four “Propositions:” 1) Economic development strategy for increased employment as an incentive for Boeing; 2) Capital improvements as an incentive for American Airlines; 3) Economic development related to education, healthcare, and events facilities including university systems and Tulsa County public schools; and 4) Capital improvements to promote community enrichment such as recreation, centers, and infrastructure.^{xlvi}

Currently use of the remaining 0.6 percent of the initiative’s budget remains to be determined. The City issued a request for Vision project proposals as a continuation of the visioning process and plan to draft the amended Vision plan for vote in April 2016.^{xlvii}

- **Tulsa Parks and Recreation Master Plan,** published January 2010, assumed a comprehensive process that included gathering public input through focus groups and surveying to identify perceived needs.^{xlviii} The Plan included a strategic framework of goals to pursue.^{xlix}

Tulsa has initiated several awareness and prevention programs related to sustainability and the environment. These include:

- **Trap the Grease Program** for prevention education about sewer and pipeline backups due to cooking grease, and
- **Save Our Streams,** a stormwater runoff education program series.[!]

The City and metropolitan area are also actively pursuing a number of economic development strategic initiatives:

- ***Energy Now/City of Tulsa Second Century Energy Initiative***, which distributes information and employment opportunities among the city's energy sector;
- ***Tulsa's Young Professionals (TYPROS)***, singularly dedicated to attraction and retention of 21- to 40-year-olds; and
- ***Tulsa's Future***, a larger-scale initiative of the Tulsa Regional Chamber for quality job attraction, most recently through a new five-year plan launched Spring 2015.^{li}

Regional and county plans must also be taken into consideration as the City proceeds with or updates planning and resiliency initiatives, including 100RC strategy development. Selected plans among recent regional efforts involving Tulsa include:

- ***Tulsa-Oklahoma City Passenger Rail Corridor Investment Plan*** for long-term transit considerations, a three-phase process supported by the State Department of Transportation that will generate 1) a Service Development Plan for scoping, costing, and proposing options, and 2) an Environmental Impact Statement for corridor-wide contingency planning related specifically to results from suggested alternatives.^{liii} Phase I commenced in March 2013 with plan release expected summer 2015.
- ***Fast Forward: Regional Transit System Plan***, released October 2011 by INCOG with Jacobs, maps the Tulsa Transportation Management Area comprising Tulsa County along with parts of four others, and builds on related regional transportation plans.^{liiii}
- ***Go Plan***, a regional bicycle and pedestrian master planning initiative “for people[-] powered movement” including community-specific analyses and discussion of the City's 2012 Complete Streets policy adoption and 2013 accompanying guidance.^{liiv}
- ***Connections 2035 Regional Transportation Plan***, also produced by INCOG, envisions a future plan with sections dedicated specifically to roadways, transit, human services-related transit, bicycles, pedestrians, freight, transit-related financial planning, and public participation.^{liiv}

Tulsa is already far along in the process of enacting positive citywide change for the environment and is undoubtedly well-positioned and motivated to engage in the 100RC strategy generation process for incorporation into its existing, expansive framework.

7 Priority Stakeholder, Plans, & Initiatives Recommendations

Listed below are organizations in attendance at the workshop. Please refer to Appendix C for a comprehensive list of all invitees and final attendees, as well as recommendations for future stakeholder engagement based on outputs from the “Key Stakeholders and Related Initiatives” Exercise along with analysis by the HR&A Team.

Government Entities, Organizations, Institutions, & Companies in Attendance

** 100RC Platform Partner ** 100RC Strategy Partner*

Government

City Departments & Agencies

- Asset Management Department
- Communications Department
- District 2
- Office of Economic Development
- Energy & Enterprise Development
- Engineering Services Department
- Fire Department
- Engineering Services Department
- Floodplain Management
- Mayor’s Office
- Mayor’s Office for Human Rights
- Planning & Development Department
- Planning Division
- Stormwater Drainage Hazard Mitigation Advisory

Board

- Streets & Stormwater Department
- Water & Sewer Department
- Working in Neighborhoods Department

Quasi-Public Authorities (City & Regional)

- Cherokee Nation Businesses [*private-held, under Cherokee Nation auspices*]

- Metropolitan Environmental Trust
- Metropolitan Tulsa Transit Authority
- Tulsa Area Emergency Management Authority
- Tulsa Development Authority
- Economic Development
- Tulsa Housing Authority
- Tulsa Zoo [*public-private partnership^{vi}*]
- Workforce Tulsa [*publicly created, privately-led*]

Regional Government (City, County, & State)

- City of Dallas
- Oklahoma Department of Rehabilitation Services
- Tulsa County
 - Levee District 12
 - Purchasing Department

Federal Agencies

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency *

Academic Institutions

Higher Education, Vocational, & Research Institutions

- Public
 - Tulsa Community College
 - Tulsa Technology Center
 - University of Oklahoma (-Norman & -Tulsa)
 - Oklahoma Climatological Survey

Private

- University of Tulsa

Primary & Secondary Education

- Tulsa Public Schools
- Union Public Schools

Nonprofits

Community Development

- Community Food Bank of Eastern Oklahoma
- John Hope Franklin Center for Reconciliation
- Oklahoma Center for Community & Justice
- Tulsa Partners, Inc.
- YMCA of Greater Tulsa
- YWCA Tulsa

Environmental Advocacy

- Sustainable Tulsa

Healthcare

- St. John Health System

Philanthropy

- Tulsa Community Foundation

Religious Organizations

- Church of the Good Shepherd Lutheran
- Islamic Society of Tulsa
- Jewish Federation of Tulsa

Private Sector

Architecture, Engineering, & Planning

- AECOM**
- Amec Foster Wheeler *
- American Institute of Architects *
- Jones Design Studio

Culture & Civic Life

- Author & Independent Consultant

Private Utility

- Covanta

Real Estate

- Case & Associates Properties, Inc.
- First Commercial Real Estate Services Corporation
- Mountain Manor

Participant Recommendations | Key Stakeholders & Related Initiatives

During the workshop, participants emphasized the need to engage a broader range of stakeholders moving forward. Though representatives across a balance of sectors were invited to participate, certain groups were insufficiently absent or insufficiently represented. Workshop attendees noted the overall lack of racial and economic diversity among participants. In addition, particular sectors (e.g., the private sector and high education) and areas of government (e.g., the Police Department) were lacking.

Feedback received from participants throughout the workshop, and especially during the “Key Stakeholders and Related Initiatives” Exercise, identified opportunities to engage additional individuals and entities in strategy development, as well as a selection of plans to leverage in the process.

- **Stakeholders:** Participants highlighted the following stakeholders, among others: minorities including community-level leadership; youth; media management; business leaders and small businesses; higher education institutions; Tulsa Public Schools; hospitals and the healthcare sector; large-scale community engagement; philanthropic community; housing (e.g. HUD); faith-based organizations; US Department of Agriculture; Legal Aid and other legal entities; and the insurance industry (see Appendix E, Exercise 4 for a thorough listing of participants’ suggestions).
- **Plans and Initiatives:** Participants highlighted plans and initiatives currently under development or implementation to leverage further in the resilience context: *Vision 2025*; *PLANiTULSA*; *Improve Our Tulsa*; Workforce plans; Charter for Compassion; Multi-modal Transportation Plan; and the objective of obtaining a 100% graduation rate, among others (refer to Appendix E, Exercise 4 for a more comprehensive list).

Following Exercise 4, workshop participants engaged in a full-group discussion to raise and expand upon issues related to inclusion and implementation. Recommendations included:

- **Engaging a more diverse community:** Leadership development is critical, as there are often a couple of leaders who serve as point people for every activity related to a particular group. The 100RC initiative would need to move beyond this standard set of people and grow leadership after this two-year injection.
- **Engaging vulnerable populations:** There is a need to demonstrate follow-through before people who live in areas where there is not equity will begin to show interest in these activities. They suffer from hope fatigue and lack of trust, so Tulsa would need some quick wins to show these populations their engagement will deliver real results.
- **Engaging small businesses:** Participants agreed that small businesses are the core of the Chamber of Commerce, but though they would benefit, they may find it difficult to engage in a process such as this due to the time it may require. One tactic may be in how to frame the benefits of their involvement and another tactic could be to develop efficient avenues for them to engage. Larger businesses could also serve as mentors to small businesses as an incentive and direct support to engaging. Notably, the City of Tulsa is in process of defining a Small Business and Enterprise program, which is about to launch through the Mayor’s Office for Human Rights. Tulsa Technology Center is also about to launch in a few weeks and would be linked to this effort.
- **Implementation challenges as deeply tied to successful engagement:** Participants raised several examples of the need to follow through on implementation of quick wins to build interest and engagement,
 - E.g., a representative of Workforce Tulsa noted a lack of traction until they successfully began to put people from prison to work.
 - E.g., the Fire Department worked with the hospital to reduce risks and re-admission rates for home bound community members.

- **Primary initiatives to leverage immediately:**
 - **Vision 2025 extension:** use of funds currently under discussion (transportation as one potential funding area)
 - **Improve Our Tulsa:** package is fully funded, opportunity to utilize allotted resources
 - **PLANiTULSA and Sustainability Plan:** both could be revisited and integrated into this effort

- **Greatest opportunities to seize over the next two years:** Participants expressed opinions on the best way to make the most of the engagement of the City of Tulsa with the 100RC process.
 - Utilize the framework to identify, prioritize, implement key initiatives
 - Re-invigorate existing planning efforts and critical issues that have already been identified (e.g. the zoning code; transport plans; mobility and workforce access, education access). Community engagement has halted on these issues due to a lack of infrastructure and ongoing forum to drive these processes, but there is an expectation for them to occur.
 - Continue to draw links between related challenges, e.g. transit and social cohesion. Participants raised that Tulsa is very fragmented and improvements to mass transit are essential, but the city as a whole (as well as neighboring communities) must be on board to comprehensively address the issue. Currently, there is no system to channel people to develop solutions.

- In addition, the City should continue to engage those attendees and organizations that self-identified as willing partners.

HR&A Team Recommendations | Key Stakeholders & Related Initiatives

Additional Key Stakeholders

Among invitees who were unable to attend, several vital industries did not provide representation at the workshop and merit further engagement:

The City should consider additional conversations with the major entities responsible for infrastructural decisions in the surrounding area. Regional utilities were not well-represented; though municipal energy, engineering services, stormwater mitigation, and water and sewer departments participated, the City should persist in having discussions with utility companies that received invitations but did not attend.

Regarding the private sector, despite the significance of oil and gas to Tulsa's economy, only one of eight companies attended. The City must attract the most vital private sector industries to join the conversation for any potential progress or consensus. Similarly, aerospace and manufacturing were absent and should be strong considerations in future community discussions about Tulsa's resiliency. Notably, Chambers of Commerce received approximately ten individual mentions as potential stakeholders, and "business and commerce" tied for the highest response rate as a key asset, according to survey respondents (Appendix E, Exercise 4; Appendix G, Q3).

Cherokee Nation Businesses was also the only non-City economic or business development entity present. Apart from one utility company, real estate managers, and professional services for architecture, engineering, and planning; private professional interests, such as legal or financial services; and small business representation, including business owners, associations, and chambers of commerce, lacked representation.

Social services were fairly well-represented overall, but participation of larger healthcare institutions was insufficient, with only one institution in attendance. Given the concentration of private and university-sponsored health centers and hospitals in the Tulsa Metropolitan Area (five more could be found on the invitation list alone), resiliency efforts unquestionably must include broader representation. Similarly, the City's notable philanthropic community had only one participant in attendance, and yet at least three other major family foundations have accounted for a tremendous amount of impact locally and beyond. These groups must be included in resiliency conversations, and their capacities must be leveraged in tandem with other existing funding sources to amplify the realm of possibility among the city's physical, social, and economic resilience-related opportunities. Higher education institutions and public school systems did have considerable attendance, and the City should continue to consider the ways in which to engage the abundance of academic resources to propel practical conversations and research about resiliency.

In terms of ethnic and cultural representation, the workshop included an equitable distribution of religious groups. However, the Indian Nations Council was unable to attend, nor were specific tribes (Cherokee, Muscogee, and Osage Nations) or regional tribal associations (Greater Tulsa Indian Affairs Commission) in attendance. Cherokee Nation Businesses was the sole representative of tribal interests.

Taking into consideration the multitude of initiatives the City and its regional partners have undertaken in recent years, several key organizations could be direct players in strategy development conversations:

- **Indian Nations Council of Governments (INCOG):** The City should deeply engage this organization, which consistently serves as a resource for a vast range of factors, including: vulnerable populations, namely tribes and the aging, as it serves as the local “Area Agency on Aging” for the State on behalf of several counties; regional cooperation; and planning for physical and economic development, in part through its federally-mandated role as an “Economic Development District.”^{lvii}
- **Transit-Oriented Entities:** The regional authority was present, but more must be engaged to continue productive conversations and reach consensus about issues that cross city boundaries. INCOG plays a significant part in this area, as does the State’s Transportation Department.
- **Tulsa Metropolitan Area Planning Commission (TMAPC),** which upholds itself as an impartial advisor, public advocate, and partner in planning and development, regularly features in regulations approvals processes and thus plays a large part in decision-making for the City.^{lviii} A strategy-drafting process must almost certainly consider TMAPC as a presence in strategy discussions.
- **Tulsa Area Clean Cities Coalition** provides access to a number of government agencies and institutions from all sectors related to energy consumption in transportation. The Coalition includes surrounding cities and authorities, along with the corporate sector. In particular, private utilities are well-represented among members and should be considered in follow-up discussions about Tulsa’s future.
- **Tulsa’s abundance of committed nonprofits** recognized by participants and geared specifically towards improving the City’s quality of life and retention, economic resources, access to information, and community spirit, particularly:
 - **Sustainable Tulsa;**
 - **Tulsa Now;**
 - **TYPROS;**
 - **Community Action Now Tulsa;** and
 - **Neighborhood organizations.**

Additional Initiatives

- **Zoning Code Update:** Equipped with resources and the opportunity to enact resiliency-minded policies, the City would be wise to consider its Zoning Code Update within the context of resiliency. Mentions of “hazards” refer to manmade accidents rather than to natural causes.^{lix} “Stormwater management” is a component of the City’s “Landscape Installation, Irrigation and Maintenance” guidance with references to retention and stormwater management uses, but otherwise resiliency precautions appear largely absent.^{lx} Particularly with respect to various building uses, resilient precautions should be taken into account and tailored to residential, commercial, and other uses as appropriate.
- **Tulsa’s Parks and Recreation Master Plan** similarly does not consider resiliency features in its development and initiative planning.
- **Tulsa’s Future and other City and regional economic development initiatives:** With applications to retention of young professionals and job training, resiliency education seems to be an untapped channel with considerable potential to grow Tulsa’s workforce and align citywide initiatives.

8 Additional Insights about Context to Lay Groundwork for Strategy Phase

Tulsa is at a crossroads. The city is receiving national recognition as an affordable place to live and do business with an up-and-coming downtown attracting the burgeoning creative class. In 2015, the New York Times named Tulsa one of the 52 places to visit in the world, citing iconic venues like Cain’s Ballroom and the Woody Guthrie Center. The City of Tulsa still benefits from the Vision 2025 initiative (initiated in 2003 and renewed in March 2015), a 0.6 cent County sales tax to support the financing of regional economic development and capital projects. Tulsa’s flood management program is ranked first in FEMA’s Community Ranking System and has reduced National Flood Insurance Program policies by 40 percent. However, Tulsa’s households lag behind the state and nation for income and employment. As the city becomes increasingly diverse and minority neighborhoods still struggle with crime and poverty, the 1921 race riot remains a vivid memory among Tulsans. And despite Tulsa’s success in mitigating flood risk, the city is located in “tornado alley” and remains susceptible to severe weather that has historically crippled the city and its aging infrastructure.

Social and economic resilience due to longer-term stresses emerged as a greater concern than Tulsa’s shocks. Although the city weathered the 2008 recession better than other U.S. cities, Tulsa’s reliance on its primary industries (e.g., oil and gas and aerospace) makes the city vulnerable to economic shocks linked to global commodity markets. With sales tax as the primary source of revenue for the city, an economic slowdown causing a slump in sales spending would cripple city services. In addition to Vision 2025 funding, Tulsa needs additional funding to support infrastructure maintenance and system development, including a more comprehensive, efficient transit system that serves lower income residents who currently have difficulty accessing jobs and services in an auto-dominated city. To identify future initiatives, it will be important to more deeply investigate the links between economic development, increasing equity and racial integration, and improving accessibility and efficiency of the transportation system within the City of Tulsa and economically tied communities outside of City boundaries. Importantly, the public transportation system is extremely limited and would require significant investment to increase access and mobility for Tulsa’s most vulnerable populations.

But Tulsa is not immune from natural shocks. As reflected in workshop outputs, Tulsa’s top shocks include flooding, tornados, and severe weather events. In the winter of 2007 and 2008, Tulsa suffered an ice storm that resulted in a massive power outage in which most residents were out of power with some Tulsans out of power for weeks. Schools, restaurants, and other businesses were closed due to lack of power and icy roadways. Since that storm, the city and utilities have made efforts to improve response to similar events. However, some workshop participants observed that residents may have a false sense of security in part due to the success of the city’s flood management program and overall improvement in hazard planning and response.

Representation from diverse communities are critical to the success of the initiative. Tulsa’s diverse population was not well-represented at the workshop. Participants reflected that Tulsa’s neighborhoods are segregated, and many minority and low-income neighborhoods lack strong, active leadership. In addition, the sprawling auto-dominated design of the city disconnects communities and limits mobility and access for those without a car. The 1921 race riots left an indelible mark on the city that is still felt now; in fact, some Tulsans contend that the race riots stunted the economic and social progress of the city’s black neighborhoods such as North Tulsa. Future resilience activities must bring together Tulsans from across races, ethnicities, income levels, and ages.

The CRO should engage with diverse stakeholders not only in Tulsa, but across the region. The City of Tulsa is inextricably linked to the County. The city’s reliance on sales tax as a primary source of revenue pits Tulsa against suburbs in attracting big box retailers. Future transit initiatives require a regional approach as Tulsa is not designed in a hub and spoke model in which most residents commute to a Central Business District from outer ring neighborhoods.

9 Next Steps & Key Resilience Opportunities for the City

As Tulsa proceeds in the 100RC process and initiates the Phase I Strategy development process by identifying priority focus areas, workshop insights will be crucial in guiding the direction in which to address citywide needs. The City has demonstrated its political and civic drive to carry out this comprehensive undertaking, and then seeing it through for effective results, as demonstrated by common consensus about its capacity today as compared with previously and its own firm commitment to measure and hold itself accountable for comprehensive plan-related initiatives. Tulsa's decision to seek assistance for additional support, despite its full agenda as it pursues a range of intensive efforts, indicates it is serious and prepared for a deep dive to assess its weaknesses and areas for improvement.

Key Resilience Opportunities

Moving forward, key resilience opportunities for the City of Tulsa may include the following:

- **Doubling efforts with the recently established AmeriCorps partnership** to bolster the CRO's capacity.
- **Near-term local economic development strategies:**
 - **Targeting downtown for growth and enhancement:** Eight survey responses discussed downtown and its potential to provide housing, entertainment, and industrial attraction. Tulsa Now's primary focus is downtown, and the City could cultivate this partnership for thinking through development and expansion.
 - **Diversification of economy and workforce:** Methods suggested for encouraging new industries and labor included fostering a "business-friendly environment" and investing in several "inclusion initiatives [for] opening up the job market to a diverse workforce" through training, as well as utilizing sustainability as an employment opportunity (Appendix G, Q3).
- **Improving public education:** While post-secondary education also received mention, the focus on the K-12 school system permeated the survey as well as the Key Stakeholder exercise, during which Tulsa Public Schools received no fewer than five mentions, in addition to several of its initiatives. The City should tap into the elementary and secondary schools both while considering its strategy and during the strategy-building phase itself.
- **Seeking ways to encourage a greater number of people to enter the conversation from the sidelines:** In particular, initiatives promoting government transparency and accessibility, along with youth involvement and programming, are important considerations, offered by survey respondents, to induce engagement by those who might be disinterested in or suspicious of City efforts.
- **Raising awareness about disaster planning and resiliency:** taking advantage of outreach for information dissemination and specific existing City and organization initiatives to educate the public was a rallying cry among ten respondents.
- **Identifying activities and approaches for fostering collaboration:** Survey respondents selected as the City's most significant current efforts these iterations of inter-sectoral and inter-personal collaboration: Civic organizations with government agencies, regional involvement, state- and region-wide disaster assistance; public and private sectors, community inclusivity, and philanthropic endeavors.

- **More than any other potential opportunity, the City will find significant opportunity in its electorate.** As noted previously, respondents' survey responses, exercise discussions of resilience, and facilitators' concluding reflections underscored general optimism about citizen activism and the potential for observable results from grassroots efforts initiated by motivated individuals. Its own civic efforts initiated thus far offer the City access to engage with residents as equally committed to and involved in transforming the status quo.
 - **Civic leaders in particular seemed to give participants confidence.** One facilitator commented that among Tulsa's "biggest players" are "citizens who act as leaders to drive change and implement plans of action." During Exercise 1 one group even considered resilience to be defined as "strength – vision & leadership," suggesting that fundamental to the City's strength is working to determine innovative ideas and outcomes (Appendix E). Tulsa demonstrates immense energy and spirit in carrying out citizen-initiated efforts, and the City should focus on effecting their involvement – especially relying upon trusted community leaders in whom residents have complete trust. They must not only be able to provide accurate and thorough insight, but must also bring to the table disruptive ideas to propel the City further towards resilient goals.
 - **Trusted and purpose-driven organizations committed to Tulsa:** The City will undoubtedly find help for the resilience-building process from the numerous determined community organizations already involved in improvement of physical, social, and economic conditions citywide. In particular, a number of groups serve vulnerable populations by combating homelessness; teaching English for disaster preparedness; and ensuring food security (see Appendix G Q4)
 - **Maintaining participant interest and momentum generated by the workshop:** The City now has an incredible cohort of professionals in all sectors who have understanding of and can teach resiliency as a concept, as well as spreading news among their networks. The City should lose no time in following up with the participants and keep up the energy felt throughout the day.

CRO Background & Preparation

Based on the recommendations above, selection and preparation of Tulsa's CRO should be guided by the pursuit of certain crucial qualities: trustworthiness, confidence, open-mindedness, cooperativeness, and vigor. The CRO must be able to engage and communicate with a wide range of stakeholders using powerful implementation skills and a proactive approach, along with optimism towards the realm of possibility. Overall, a successful CRO should reflect qualities that promote resilient systems: drive, flexibility and variety in problem-solving, creativity, endurance, and relatability to the situation at hand, as with the "Oklahoma work ethic" trait (Section 4).

Lastly, the CRO should optimally arrive with sufficient background knowledge of resiliency planning and related initiatives to facilitate collaboration with affiliates such as the AmeriCorps program, as well as to share knowledge and communicate effectively to support a new citywide undertaking. Critically, the CRO should arrive with institutional knowledge of the City's inner-workings and processes to find the most efficient solutions and integrate a distinct initiative appropriately into the City's existing policy and planning framework, as well as demonstrating genuine familiarity with and compassion towards Tulsa's identity and values.

Appendix A: Consultant Self-Assessment

Overall, the Consultant Team delivered a high-quality workshop that achieved the intended objectives. The City Team and workshop participants gave overwhelmingly positive feedback on the workshop and expressed enthusiasm in continuing to be engaged in the next steps to move the 100RC process forward.

The Consultant Team worked closely with the City of Tulsa and 100RC to design and deliver the workshop. In total, the core workshop Planning Team was composed of five staff: two from HR&A, two from 100RC, and one from the City. HR&A, 100RC, and the City held regular weekly calls in the weeks leading up to the workshop to discuss content and logistics. HR&A developed the agenda and workshop materials iteratively with 100RC and the City, and collaborated on the design and structure of the day.

Workshop Design

The Tulsa workshop design did not stray far from the standard 100RC workshop playbook. As is often the case, the “What is Resilience?” Exercise was a useful introduction to the day because it helped establish a foundational understanding of the 100RC Resilience definition amongst participants to allow groups to work effectively throughout the day. It was clear that participants had varying perceptions of resilience coming into the workshop and this level-setting will help the CRO engage with this group of stakeholder more effectively through the strategy.

The “Shocks and Stresses Prioritization” Exercise helped expand participants’ understanding of potential shocks and stresses relevant to Tulsa, particularly because the tables had a set of populated shocks/stresses cards as well as blank ones. Many of the participants generated new ideas, which was a fruitful source of discussion and debate. The Exercise enabled them to identify Tulsa’s near and long-term risks and begin to draw connections between them. It also highlighted the broad concern for stresses, which did not seem to be on the forefront of people’s minds in coming to the workshop.

The “Key Stakeholders and Related Initiatives” Exercise was developed collaboratively with the Program Team to first generate ideas within groups and then hold a full group discussion. This was the only point in the workshop which allowed for the group to interact as a whole. It yielded fruitful discussion and this approach is recommended for future workshops.

There are a few areas for improvement on HR&A’s design and implementation of the workshop. As previously mentioned, inconsistencies with CRF versions created confusion during the workshop. While the versions were those on the 100RC strategy Dropbox, the team used different versions in the workshop and will be more diligent in checking versions going forward. Further, a number of survey respondents suggested the survey response options include “not applicable” and that the survey allow more flexibility to select multiple possible answers that were not necessarily mutually exclusive. All of these observations are extremely useful to the HR&A Team to improve performance and will be taken into serious consideration in planning moving forward.

Workshop Logistics

In addition to workshop content, the HR&A Team also learned some useful lessons regarding workshop logistics. While these lessons reflect the particularities of the Tulsa venue and workshop context, we have attempted to capture generalized insights below.

Invitations

The development of an invite list is a critical, iterative process to ensure the appropriate balance of participants ultimately attending the workshop. It requires an initial coordinated effort on the city's part to develop the invitee list and a secondary follow-up effort, including personal outreach, to ensure that key stakeholders who are typically missing from these conversations attend the workshop. The mechanics of the invitation involve ensuring a series of details come together at once (online RSVP, invite language, official email process via Mayor's office), which requires careful coordination.

Venue Selection

The venue had historical and cultural significance, was situated in a picturesque location, was flooded with natural light, and was appropriately sized for the number of workshop participants. It also proved beneficial to select a venue with full service catering capacity, which eliminated the need to separately manage an additional vendor.

Registration Process

The registration process ran relatively smoothly. The program team arranged all registration materials the day prior to the workshop, including laying out the nametags in alphabetical order, and preparing facilitator and participant folders as well as all other materials. For future workshops, two pairs staffing the registration desk would be ideal to efficiently move attendees through the process while capturing all information correctly. Organizing the table assignment list alphabetically facilitated finding participants' names and assignments.

Materials

There were some inconsistencies between versions of materials. It is recommended that 100RC sign-off on all materials to be sent for printing and use during the workshop.

Appendix B: Workshop Reporting Forms

Agenda Item	
PRE-WORKSHOP	
Agenda Item Name	What is Resilience?
Overview	Exercise 1
Objectives	This exercise intended to foster conversations around the concept of resilience and its meaning in relation to Tulsa. Outputs identified differences and gaps in stakeholders' understanding of resilience and informed future efforts to build awareness in Tulsa. Exercise 1 served as the baseline for Exercises 2 and 3.
Format	Facilitated breakout groups
Staffing	Facilitators, breakout participants
Materials	Easel, flip chart, pens, markers
Preparation	HR&A-designed and -produced materials
Agenda Item Breakdown & Timing	<ul style="list-style-type: none"> - 10:15-10:40 am Breakout groups - 10:40-10:45 am Groups report back
Outputs	<ul style="list-style-type: none"> - Flip chart sheet(s) summarizing key discussion points - Photos of flip chart outputs
POST WORKSHOP	
Actual Timing	<ul style="list-style-type: none"> - 10:15-10:40 am Breakout groups - 10:40-10:50 am Groups reported back
Materials Used	Easel, flip chart, pens, markers
What Did and Did Not Work Well?	<ul style="list-style-type: none"> - Discussions led to clear results about participants' definitions of resilience for Tulsa - Readouts took longer than planned
Value & Suggested Uses	This Exercise provided value by creating a common understanding of resilience amongst participants as a basis for subsequent Exercises.
Notes/Suggestions for Customization	<ul style="list-style-type: none"> - Given time constraints, discussion should be limited to answering perhaps just 1 or 2 questions; the exercise should instead dedicate more time (10 to 12 min) for readouts - Consider scheduling Exercise 1 before the formal 100RC Introduction to Resilience presentation

Agenda Item	
PRE-WORKSHOP	
Agenda Item Name	Shocks & Stresses Prioritization
Overview	Exercise 2
Objectives	This exercise surveyed participants' understanding to date of Tulsa's major shocks and stresses and intended to catalyze thinking about lesser-known or less obvious risks. The exercise also sought to elevate relationships among primary shocks and stresses and the dynamic nature of those relationships. During the exercise, participants engaged directly with each other to evaluate priorities and trade-offs, which helped set the tone for continued interactive dialogue around resilience.
Format	Facilitated breakout groups
Staffing	Facilitators, breakout participants
Materials	<ul style="list-style-type: none"> - Pre-workshop survey results (handouts in participant packets) - Risk prioritization grid (on table) - Pre-labeled shocks and stresses notecards (including blank cards for additions) - Pens and markers
Preparation	<ul style="list-style-type: none"> - HR&A-designed and -produced materials
Agenda Item Breakdown & Timing	<ul style="list-style-type: none"> - 11:30 am - 12:05 pm Breakout groups - 12:05 - 12:15 pm Groups reported back
Outputs	<ul style="list-style-type: none"> - Photo of completed matrix including all shocks and stresses discussed - Facilitator worksheet of top 3 shocks and top 3 stresses
POST-WORKSHOP	
Actual Timing	<ul style="list-style-type: none"> - 11:30 am - 12:05 pm Breakout groups - 12:05 - 12:15 pm Groups reported back
Materials Used	<ul style="list-style-type: none"> - Pre-workshop survey results (handouts in participant packets) - Risk prioritization grid (on table) - Pre-labeled shocks and stresses notecards (including blank cards for additions) - Pens and markers
What Did and Did Not Work Well?	<ul style="list-style-type: none"> - We allowed participants to attach all shocks and stresses and then circle the top three; some groups drew lines to connect shocks and stresses - The plots size were too large for the easel stands and the venue did not permit materials to be taped or hung on the walls
Value & Suggested Uses	Exercise 2 generated rich discussions within each group
Notes/Suggestions for Customization	<ul style="list-style-type: none"> - Shocks and stresses cards should be tailored to context - Beneficial to let the exercise evolve based on participant feedback - Reduce the size of the plots, especially if the venue does not permit attaching materials to the walls

PRE-WORKSHOP	
Agenda Item Name	City Resilience Diagnostic
Overview	Exercise 3
Objectives	This exercise aimed to engage participants to develop a preliminary assessment of Tulsa's resilience by discussing areas of strength and vulnerability in the context of the City Resilience Framework (CRF). Participants sought to reach consensus about the top 3 strengths and top 3 vulnerabilities.
Format	Facilitated breakout groups
Staffing	Facilitators, breakout participants
Materials	<ul style="list-style-type: none"> - Pre-workshop survey results - CRF overview of 12 drivers and qualities of resilience - CRF board - Sticky dots (red, yellow, green)
Preparation	HR&A-designed and -produced materials
Agenda Item Breakdown & Timing	<ul style="list-style-type: none"> - 1:30-2:15 pm Breakout groups - 2:15-2:30 pm Groups reported back
Outputs	<ul style="list-style-type: none"> - CRF wheel populated with individual rankings; group synthesis of top 3 drivers Tulsa is demonstrating well and 3 drivers Tulsa could improve - CRF wheel populated with workshop-level synthesis
POST-WORKSHOP	
Actual Timing	<ul style="list-style-type: none"> - 1:30-2:15 pm Breakout groups - 2:15-2:30 pm Groups reported back
Materials Used	<ul style="list-style-type: none"> - Pre-workshop survey results - CRF overview of 12 drivers and qualities of resilience - CRF board - Sticky dots (red, yellow, green)
What Did and Did Not Work Well?	<ul style="list-style-type: none"> - Generated rich discussion - Live synthesis of group report back resulted in a workshop-level synthesis to help guide subsequent conversations - Participants received an outdated version of the CRF exercise plot
Value & Suggested Uses	Exercise 3 resulted in valuable workshop-level syntheses to support strategy development in the next 100RC phase
Notes/Suggestions for Customization	Require participants to utilize 3 sticky dots of each color (9 total) to force prioritization

PRE-WORKSHOP	
Agenda Item Name	Key Stakeholders & Related Initiatives
Overview	Exercise 4
Objectives	This facilitated large-group discussion built on the results of the previous roundtable discussions to generate an initial list of stakeholders to engage in Tulsa’s resilience-building process moving forward. Participants also identified initiatives, programs, and plans that might contribute or relate to Tulsa’s resilience-building strategy. The discussion explored related programs and activities of various stakeholder groups and also intended to highlight potential barriers, such as regulations or funding, to promoting resilience in Tulsa.
Format	Facilitated breakout groups
Staffing	Facilitators, breakout participants
Materials	<ul style="list-style-type: none"> – Pre-workshop survey results – Blank boards for “Plans and Initiatives” and “Stakeholders” – Sticky notes – Easels
Preparation	– HR&A-designed and -produced materials
Agenda Item Breakdown & Timing	<ul style="list-style-type: none"> – 2:45-3:20 pm Breakout groups – 3:20-3:45 pm Full workshop group discussion
Outputs	<ul style="list-style-type: none"> – Boards with sticky notes organized by category – Notes summarizing outcomes of group discussion
POST-WORKSHOP	
Actual Timing	<ul style="list-style-type: none"> – 2:45-3:20 pm Breakout groups – 3:20-3:45 pm Full workshop group discussion
Materials Used	<ul style="list-style-type: none"> – Pre-workshop survey results – Blank boards for “Plans and Initiatives” and “Stakeholders” – Sticky notes – Easels
What Did and Did Not Work Well?	The large-group dialogue was very fruitful and would have been even more so if longer
Value & Suggested Uses	The long list of stakeholders, plans, and initiatives will be very useful moving into the strategy phase
Notes/Suggestions for Customization	It would be interesting to have a facilitator emcee the large-group dialogue to draw out richer conversation, given greater local knowledge

Appendix C: Final Master Stakeholder List & Additional Recommendations

Final Master Stakeholder Attendee List

Role	Office/Organization	First	Last	Title	
Guest Speakers	City of Tulsa	Dewey F.	Bartlett, Jr.	Mayor	
	Author & Independent Consultant	Hannibal B.	Johnson	Guest Speaker	
City Team	Mayor's Office	Jarred	Brejcha	Chief of Staff	
	Energy & Enterprise Development, Office of Economic Development	Brett	Fidler	Director	
City Participants	Tulsa Fire Department	Michael	Baker	Chief of Emergency Medical Services	
	Planning Division, Planning & Development Department	Martha	Schultz	Planner III	
	Asset Management Department	Mark	Weston	Public Safety & Security Manager	
	Streets & Stormwater Department	Terry	Ball	Director	
	Economic Development, Tulsa Development Authority	Clay	Bird	Executive Director	
	Metropolitan Tulsa Transit Authority	Bill	Cartwright	Director	
	District 2	Jeannie	Cue	City Councilor	
	Water & Sewer Department	Clayton	Edwards	Director	
	Stormwater Drainage Hazard Mitigation Advisory Board	Dr. Judith	Finn	Chair	
	Tulsa Housing Authority	Melody	Garner	Senior Vice President, Housing Operations	
	Tulsa Area Emergency Management Authority	Roger	Jolliff	Executive Director	
	Tulsa Housing Authority	Kent	Keith	Vice President, Construction Services	
	Mayor's Office for Human Rights	Jackson	Landrum	Director	
	Communications Department	Kim	Macleod	Director	
	Floodplain Management, Engineering Services Department	Bill	Robison	Lead Engineer & Coordinator, Community Rating System (NFIP)	
Metropolitan Tulsa Transit Authority	Debbie	Ruggles	Assistant General Manager		
Facilitators	City	Working in Neighborhoods Department	Laura	Hendrix	Neighborhood Liaison
		Engineering Services Department	Mary	Kell	Architectural Project Manager
		Planning Division, Planning & Development Department	Theron	Warlick	Planner III
	Non-City	Covanta	Matt	Newman	Director, Business Management
		Jones Design Studio	Molly	Jones, AIA	Principal
		Metropolitan Environmental Trust	Graham	Brannin	Director
		Sustainable Tulsa	Corey	Williams	Executive Director
		Tulsa Public Schools	Bob	Roberts	Emergency Manager
		Case & Associates Properties, Inc.	Cindi	Carlock	Regional Property Supervisor
Non-City Participants	Cherokee Nation Businesses	Forrest	Cox	Government Relations & Economic Development Specialist	
	Church of the Good Shepherd Lutheran	Tou	Yang		
	City of Dallas	Theresa	O'Donnell	Chief Planning Officer	
	Community Food Bank of Eastern Oklahoma	Eileen	Bradshaw	Executive Director	
	First Commercial Real Estate Services Corporation	Mike	Craddock	Vice President, Hospitality Specialist	
	Islamic Society of Tulsa	Aliye	Shimi	Outreach Director	
	Jewish Federation of Tulsa	Drew	Diamond	Executive Director	
	John Hope Franklin Center for Reconciliation	Jeff	Kos	Historian & Secretary of Board of Directors	

Continued

Non-City Participants (Continued)	Mountain Manor	Ed	van Delftbyleveld	Chair
	Oklahoma Center for Community & Justice	Jayne	Cox	Chief Executive Officer & President
	Oklahoma Department of Rehabilitation Services	Thaddaeus T.	Babb	Administrative Programs Officer, Corporate Relations Unit
	St. John Health System	Justin	McLaughlin	Foundation President & Vice President, Government Affairs
	Tulsa Community College	Sean	Weins	Vice President, Administration
	Tulsa Community Foundation	Mike	Dodson	Senior Program Officer
	Tulsa Community Foundation	Holly	Raley	Program Officer
	Levee District 12, Tulsa County	Todd	Kilpatrick	Commissioner
	Purchasing Department, Tulsa County	Vicki	Adams	Chief Deputy
	Tulsa Partners, Inc.	Tim	Lovell	Executive Director
	Tulsa Technology Center	Steve	Tiger	Superintendent & Chief Executive Officer
	Tulsa Zoo	Terrie	Correll	President & Chief Executive Officer
	U.S. Army Corps of Engineers	Dr. Ed	Rossmann	Chief, Planning Branch, Planning & Environmental Division
	Union Public Schools	Kathy	Dodd	Associate Superintendent
	Oklahoma Climatological Survey, University of Oklahoma	Tracy	Kennedy	Executive Director, Communications, Community Engagement, & Planning
	Oklahoma Climatological Survey, University of Oklahoma	Rachel	Riley	Associate Program Manager, Oklahoma Climatological Survey
	University of Tulsa	Susan	Neal	Vice President for Public Affairs, Research, & Economic Development
	Workforce Tulsa	Shelley	Cadamy	Executive Director
	YMCA of Greater Tulsa	Ricki	Wimmer	Vice President, Educational Initiatives
	YWCA Tulsa	Katie	Gill Miller	Director, Health & Wellness
YWCA Tulsa	Christy	Huff	Director, Immigrant & Refugee Programs	
Platform Partners	Amec Foster Wheeler	Sandra	Ryan	Principal Consultant, Water Management
	American Institute of Architects	Lindsey	Ellerbach	Executive Director, AIA Eastern Oklahoma
	American Institute of Architects/University of Oklahoma-Tulsa	Michael	Birkes	2016 President, AIA Eastern Oklahoma/Professor of Practice/Architect
	U.S. Environmental Protection Agency	Ken	Forshay	Ecologist, Office, Research & Development
	U.S. Environmental Protection Agency	Denise	Williams	Brownfields Project Officer, Region 6
100RC	100 Resilient Cities	Mari	Haraldsson	Associate, City Relationships
	100 Resilient Cities	Olivia	Stinson	Associate Director for City Relationships
	100 Resilient Cities	Andrew	Salkin	Chief Operating Officer
Strategy Partner	AECOM <i>(for another 100RC City)</i>	Jerry	Smiley	Leader, Transit & Environmental Services Business Unit - Dallas/Fort Worth
	HR&A Advisors	Jee Mee	Kim	Principal
	HR&A Advisors	Kaye	Matheny	Principal
	HR&A Advisors	Christina	PioCosta-Lahue	Senior Analyst

Attendees by Category

Stakeholder Category	Office/Organization (* Platform Partner)	First	Last	Title
City Departments & Agencies		Dewey F.	Bartlett, Jr.	Mayor
	Asset Management Department	Mark	Weston	Public Safety & Security Manager
	Communications Department	Kim	Macleod	Director
	District 2	Jeannie	Cue	City Councilor
	Energy & Enterprise Development, Office of Economic Development	Brett	Fidler	Director
	Engineering Services Department	Mary	Kell	Architectural Project Manager
	Fire Department	Michael	Baker	Chief of Emergency Medical Services
	Floodplain Management, Engineering Services Department	Bill	Robison	Lead Engineer & Coordinator, Community Rating System (NFIP)
	Mayor's Office	Jarred	Brejcha	Chief of Staff
	Mayor's Office for Human Rights	Jackson	Landrum	Director
	Planning Division, Planning & Development Department	Martha	Schultz	Planner III
	Planning Division, Planning & Development Department	Theron	Warlick	Planner III
	Stormwater Drainage Hazard Mitigation Advisory Board	Dr. Judith	Finn	Chair
	Streets & Stormwater Department	Terry	Ball	Director
	Water & Sewer Department	Clayton	Edwards	Director
Working in Neighborhoods Department	Laura	Hendrix	Neighborhood Liaison	
Quasi-Public Authorities (City & Regional)	Cherokee Nation Businesses	Forrest	Cox	Government Relations & Economic Development Specialist
	Economic Development, Tulsa Development Authority	Clay	Bird	Executive Director
	Metropolitan Environmental Trust	Graham	Brannin	Director
	Metropolitan Tulsa Transit Authority	Bill	Cartwright	Director
	Metropolitan Tulsa Transit Authority	Debbie	Ruggles	Assistant General Manager
	Tulsa Area Emergency Management Authority	Roger	Jolliff	Executive Director
	Tulsa Housing Authority	Melody	Garner	Senior Vice President, Housing Operations
	Tulsa Housing Authority	Kent	Keith	Vice President, Construction Services
	Tulsa Zoo	Terrie	Correll	President & Chief Executive Officer
Workforce Tulsa	Shelley	Cadamy	Executive Director	
Regional Government (City, County, State)	City of Dallas	Theresa	O'Donnell	Chief Planning Officer
	Levee District 12, Tulsa County	Todd	Kilpatrick	Commissioner
	Oklahoma Department of Rehabilitation Services	Thaddaeus T.	Babb	Administrative Programs Officer, Corporate Relations Unit
	Purchasing Department, Tulsa County	Vicki	Adams	Chief Deputy
Federal Agencies	U.S. Army Corps of Engineers	Dr. Ed	Rossman	Chief, Planning Branch, Planning & Environmental Division
	U.S. Environmental Protection Agency *	Ken	Forshay	Ecologist, Office, Research & Development
	U.S. Environmental Protection Agency *	Denise	Williams	Brownfields Project Officer, Region 6

Continued

Academic Institutions	Higher Education, Vocational, & Research Institutions	Public	Oklahoma Climatological Survey, University of Oklahoma-Norman	Tracy	Kennedy	Executive Director, Communications, Community Engagement, & Planning
			Oklahoma Climatological Survey, University of Oklahoma-Norman	Rachel	Riley	Associate Program Manager, Oklahoma Climatological Survey
		Tulsa Community College	Sean	Weins	Vice President, Administration	
		Tulsa Technology Center	Steve	Tiger	Superintendent & Chief Executive Officer	
	Private	University of Tulsa	Susan	Neal	Vice President for Public Affairs, Research, & Economic Development	
	Primary & Secondary Education	Tulsa Public Schools	Bob	Roberts	Emergency Manager	
Union Public Schools	Kathy	Dodd	Associate Superintendent			
Nonprofits	Healthcare	St. John Health System	Justin	McLaughlin	Foundation President & Vice President, Government Affairs	
	Environmental Advocacy	Sustainable Tulsa	Corey	Williams	Executive Director	
	Philanthropy	Tulsa Community Foundation	Mike	Dodson	Senior Program Officer	
		Tulsa Community Foundation	Holly	Raley	Program Officer	
	Community Development	Community Food Bank of Eastern Oklahoma	Eileen	Bradshaw	Executive Director	
		John Hope Franklin Center for Reconciliation	Jeff	Kos	Historian & Secretary of Board of Directors	
		Oklahoma Center for Community & Justice	Jayme	Cox	Chief Executive Officer & President	
		Tulsa Partners, Inc.	Tim	Lovell	Executive Director	
		YMCA of Greater Tulsa	Ricki	Wimmer	Vice President, Educational Initiatives	
		YWCA Tulsa	Katie	Gill Miller	Director, Health & Wellness	
	YWCA Tulsa	Christy	Huff	Director, Immigrant & Refugee Programs		
	Religious Organizations	Church of the Good Shepherd Lutheran	Tou	Yang		
		Islamic Society of Tulsa	Aliye	Shimi	Outreach Director	
Jewish Federation of Tulsa		Drew	Diamond	Executive Director		
Private Sector	Architecture, Engineering, & Planning	AECOM	Jerry	Smiley	Leader, Transit & Environmental Services Business Unit - Dallas/Fort Worth	
		Amec Foster Wheeler *	Sandra	Ryan	Principal Consultant, Water Management	
		American Institute of Architects *	Lindsey	Ellerbach	Executive Director, AIA Eastern Oklahoma	
		American Institute of Architects/University of Oklahoma-Tulsa *	Michael	Birkes	2016 President, AIA Eastern Oklahoma/Professor of Practice/Architect	
		Jones Design Studio	Molly	Jones, AIA	Principal	
	Culture & Civic Life	Author & Independent Consultant	Hannibal B.	Johnson	Guest Speaker	
	Private Utility	Covanta	Matt	Newman	Director, Business Management	
	Real Estate	Case & Associates Properties, Inc.	Cindi	Carlock	Regional Property Supervisor	
		First Commercial Real Estate Services Corporation	Mike	Craddock	Vice President, Hospitality Specialist	
		Mountain Manor	Ed	van Delftbyleveld	Chair	

Non-Attendees by Category

Stakeholder Category	Office/Organization: * Platform Partner; (*) Represented	First	Last (** Provided Substitute)	Title	
City Departments & Agencies	Asset Management Department (*)	Mark	Hogan **	Director	
	City Team (*)	Miriah	Bittencourt	Receptionist	
	District 1	Jack	Henderson	City Councilor	
	District 3	David	Patrick	City Councilor	
	District 4	Blake	Ewing	City Councilor	
	District 5	Karen	Gilbert	City Councilor	
	District 6	Connie	Dodson	City Councilor	
	District 7	Anna	America	City Councilor	
	District 8	Phil	Lakin	City Councilor	
	District 9	G.T.	Bynum	City Councilor	
	Finance Department	Mike	Kier	Director	
	Fire Department (*)	Scott	Clark **	Deputy Chief	
	Fire Department (*)	Ray	Driskell	Chief	
	Information Technology Department	Michael	Dellinger	Chief Information Officer	
	Maximizing & Advancing Performance Office	Penny	Macias	Project Manager	
	Maximizing & Advancing Performance Office	Robyn	Undieme	Director	
	Maximizing & Advancing Performance Office	Penny	Macias	Project Manager	
	Mayor's Office (*)	David	O'Meilia	City Attorney	
	Mayor's Office (*)	Jim	Twombly	City Manager	
	Mayor's Office (*)	Lloyd	Wright	Press Secretary	
Parks & Recreation Department	Lucy	Dolman	Director		
Planning & Development Department (*)	Dawn	Warrick	Director		
Police Department	Chuck	Jordan	Chief		
Police Department	Lt. Col. Jim	Mazzei			
Working in Neighborhoods Department	Dwain	Midget	Director		
Quasi-Public Authorities (City & Regional Authorities)	Business Associations	Greater Tulsa Hispanic Affairs Commission	Juan	Miret	Chair
		Greater Tulsa Hispanic Chamber	Francisco	Treviño	Executive Director
		Greenwood Chamber of Commerce	Dr. Art	Williams	Interim Director
		Tulsa Regional Chamber of Commerce	Mike	Neal	President & Chief Executive Officer
		Port of Catoosa	David	Yarborough	Deputy Director & Operations Manager
Tribal Representation	Cherokee Nation	Ginger	Brown	Government Relations Officer	
	Cherokee Nation Businesses (*)	Charles	Garrett	Executive Vice President	
	Greater Tulsa Indian Affairs Commission	Robert	Anquoe	Chair	
	Indian Nations Council of Governments	Rich	Brierre	Executive Director	
	Muscogee (Creek) Nation	Neely	Tsoodle	Director	
	Osage Nation	Chris	White	Executive Director, Government Affairs	
Regional Government (City, County, State)	Department of Environmental Quality, State of Oklahoma	Aron	Samwel	Environmental Program Manager, Brownfields Section	
	Tulsa County (*)	Karen	Keith	Commissioner	
	Tulsa County (*)	Ron	Peters	Commissioner	
	Tulsa County (*)	John	Smaligo	Commissioner Chair	
	Tulsa Health Department, Tulsa City-County	Dr. Bruce	Dart	Executive Director	

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Public Utilities		Public Service Company of Oklahoma, American Electric Power	Steve Baker	Vice President, Distribution Operations
Federal Agencies		U.S. Environmental Protection Agency * (*) Sandia National Laboratories *	Mary Kemp **	Section Chief, Brownfields Team, Region 6
Higher Education, Vocational, & Research Institutions	Public	Langston University	Vonnie Ware-Roberts	Director, Alumni Affairs, Institutional Advancement, & External Affairs
		Northeastern State University	Dr. Eloy Chavez	Assistant Dean
		Oklahoma Climatological Survey, University of Oklahoma (*)	Mark Shafer	Associate Professor, Geography & Environmental Sustainability
		Police Department, Oklahoma State University-Tulsa	Melvin Murdock	Chief of Police/Director of Public Safety
		Shusterman Center, University of Oklahoma	Dr. John Henning Schumann	Interim President
	Private	Tulsa Community College (*)	Leigh Goodson	President
		Oral Roberts University	Tim Philley	Chief Operating Officer
Primary & Secondary Education		Tulsa Public Schools (*)	Blaine Young	Chief Information & Operations Officer
Nonprofits	Healthcare	Hillcrest HealthCare System	Tyra Palmer	Vice President
		Indian Healthcare Resource Center		
		Morton Comprehensive Health Services	John Silva	Chief Executive Officer
		Oklahoma State University Medical Center	Jennifer Calvert	Director, Operations
	Culture & Civic Life	Saint Francis Healthcare System	Jake Henry	President & Chief Executive Officer
		Gilcrease Museum	James Pepper	Executive Director
		Greenwood Cultural Center	Frances Jordan-Rakestraw	Executive Director
		Philbrook Museum of Art	Randall Suffolk	Director
	Philanthropy	Tulsa Historical Society	Michelle Place	Executive Director
		Helmerich Foundation		
		Kaiser Family Foundation	Ken Levit	Executive Director
		Schusterman Family Foundation	Dennis Neill	Senior Program Officer
	Community Development	Tulsa Community Foundation (*)	Jessica Sisemore **	
		Tulsa Community Foundation (*)	Jeff Stava	Chief Operating Officer
		Catholic Charities	Kevin Sartorius	Executive Director
		Community Action Project Tulsa	Karen Kiely	Chief Operating Officer
		Cornerstone Assistance Network	Anna Falling	Executive Director
		Immigrant & Refugee Services, YWCA	Vanessa Finley	Chief Executive Officer
		John Hope Franklin Center for Reconciliation (*)	Dr. Jocelyn Lee	Executive Director
		Mental Health Association Oklahoma	Gregory Shinn	Associate Director
Mental Health Association Oklahoma		Gregory Shinn	Associate Director	
Mental Health Association Tulsa		Michael Brose	Executive Director	
Tulsa Apartment Association		Keri Cooper	Executive Director	
Tulsa Day Center for the Homeless		Sandra Lewis	Executive Director	
Tulsa Habitat for Humanity	Todd Klabenes	Director, Family Services		
Tulsa Habitat for Humanity	Cameron Walker	Executive Director		
YMCA of Greater Tulsa (*)	Susan Plank	Chief Executive Officer		

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Nonprofits (Continued)	Religious Organizations	Church of the Good Shepherd Lutheran (*)	Sing	Vang **	Minister to Hmong Community
		Islamic Council of Oklahoma	Sheryl	Siddiqui	Chairperson
		North Tulsa Ministerial Alliance	Rev. W.R.	Casey, Jr.	President
		Tulsa Metro Baptist Network			
Private Sector	Architecture, Planning, & Engineering	AECOM (*)	Megan	Inman	
		Amec Foster Wheeler * (*)	Caleb	Scalf	Business Development
		Ann Patton Company, LLC	Ann	Patton	Principal
		Pardee Construction	Scott	Pardee	Project Manager
		Wallace Engineering	Tom	Wallace	Chief Executive Officer
	Financial Services	Bank of Oklahoma	Steve	Bradshaw	President
	Oil & Gas	Distribution Companies, ONEOK Inc.	Sam	Combs	Former President
		Holly Frontier	James	Resinger	Vice President & Refinery Manager
		Kaiser-Francis Oil	Don	Millican	Chief Financial Officer
		Laredo	Randy	Foutch	President
		Magellan Midstream Partners, L.P.	Bruce	Heine	Director, Government & Media Affairs
		Oklahoma Natural Gas	Dwight	Ellis	Manager, Economic Development
		The Williams Companies, Inc.	Don	Chappel	Senior Vice President & Chief Financial Officer
	Aerospace	American Airlines	Chuck	Allen	Managing Director, Government Affairs
	Retail	McNellies's Group	Elliot	Nelson	Restaurateur
		Quik Trip	Chet	Cadieux	President & Chief Executive Officer
	100RC	100 Resilient Cities (*)	Charlotte	Couturier	Associate

Attendee Seating Assignments

Table	Primary Expertise	Office	Organization	First	Last (* Facilitator; ** Platform Partner)	Title
1	Governance	Levee District 12 Communications Department	Tulsa County	Todd	Kilpatrick	Commissioner
	Community Outreach		City of Tulsa	Kim	Macleod	Director
	Religious		Islamic Society of Tulsa	Aliye	Shimi	Outreach Director
	Education		University of Tulsa	Susan	Neal	Vice President for Public Affairs, Research, & Economic Development
	Energy Infrastructure		Covanta	Matt	Newman *	Director, Business Management
2	Philanthropy	District 2 Working in Neighborhoods Department	Amec Foster Wheeler	Sandra	Ryan **	
			Tulsa Community Foundation	Mike	Dodson	
	Economic Development		Cherokee Nation Businesses	Forrest	Cox	Government Relations & Economic Development Specialist
	Philanthropy		Tulsa Community Foundation	Holly	Raley	
	Governance		City of Tulsa	Jeannie	Cue	City Councilor
3	Community Outreach	Oklahoma Climatological Survey	City of Tulsa	Laura	Hendrix *	Neighborhood Liaison
	Health		St. John Health System	Justin	McLaughlin	Foundation President & Vice President, Government Affairs
	Stormwater & Environment		University of Oklahoma	Rachel	Riley	Associate Program Manager, Oklahoma Climatological Survey
	Infrastructure		U.S. Army Corps of Engineers	Dr. Ed	Rossman	Chief, Planning Branch, Planning & Environmental Division
	Education		YMCA of Greater Tulsa	Ricki	Wimmer	Vice President, Educational Initiatives
3	Stormwater & Environment	Water & Sewer Department	Sustainable Tulsa	Corey	Williams *	Executive Director
	Community Outreach		John Hope Franklin Center for Reconciliation	Jeff	Kos	
	Stormwater & Environment		U.S. Environmental Protection Agency	Ken	Forshay	
	Housing & Real Estate		Case & Associates Properties, Inc.	Cindi	Carlock	Regional Property Supervisor
	Infrastructure		City of Tulsa	Clayton	Edwards	Director
	Health		YWCA Tulsa	Katie	Gill Miller	Director, Health & Wellness
	Planning		AECOM	Jerry	Smiley	Leader, Transit & Environmental Services Business Unit - Dallas/Fort Worth

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4	Governance	Purchasing Department	Tulsa County	Vicki Adams	Chief Deputy
	Planning	Planning & Development Department	City of Tulsa	Martha Schultz	Planner III
	Economic Development	Economic Development, Tulsa Development Authority	City of Tulsa	Clay Bird	Executive Director
	Community Outreach		Community Food Bank of Eastern Oklahoma	Eileen Bradshaw	Executive Director
	Religious		Jewish Federation of Tulsa	Drew Diamond	Executive Director
	Infrastructure	Engineering Services Department	City of Tulsa	Mary Kell *	Architectural Project Manager
	Education		Tulsa Technology Center	Steve Tiger	Superintendent & Chief Executive Officer
5	Stormwater & Environment	Streets & Stormwater Department	City of Tulsa	Terry Ball	Director
	Housing & Real Estate		Mountain Manor	Ed van Delftbyleveld	Chair
	Economic Development		Workforce Tulsa	Shelley Cadamy	Executive Director
	Community Outreach	Mayor's Office for Human Rights	City of Tulsa	Jackson Landrum	Director
	Housing & Real Estate	Tulsa Housing Authority	City of Tulsa	Kent Keith	Vice President, Construction Services
	Disaster & Emergency Management		Tulsa Partners, Inc.	Tim Lovell	Executive Director
	Education		Tulsa Public Schools	Bob Roberts *	Emergency Manager
6	Stormwater & Environment	Floodplain Management, Engineering Services Department	City of Tulsa	Bill Robison	Lead Engineer & Coordinator, Community Rating System (NFIP)
	Education		Union Public Schools	Kathy Dodd	Associate Superintendent
	Transit	Metropolitan Tulsa Transit Authority	City of Tulsa	Bill Cartwright	Director
	Stormwater & Environment		U.S. Environmental Protection Agency	Denise Williams **	Brownfields Project Officer, Region 6
	Community Outreach		Oklahoma Center for Community & Justice	Jayne Cox	Chief Executive Officer & President
	Housing & Real Estate	Tulsa Housing Authority	City of Tulsa	Melody Garner	Senior Vice President, Housing Operations
	Planning		Jones Design Studio	Molly Jones, AIA *	Principal
Religious		Church of the Good Shepherd Lutheran	Tou Yang		
	Transit	Metropolitan Tulsa Transit Authority	City of Tulsa	Debbie Ruggles	

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7	Stormwater & Environment	Metropolitan Environmental Trust	Graham	Brannin *	Director	
	Stormwater & Environment	Stormwater Drainage Hazard Mitigation Advisory Board	City of Tulsa	Dr. Judith Finn	Chair	
	Community Outreach	YWCA Tulsa	Christy Huff		Director, Immigrant & Refugee Programs	
	Disaster & Emergency Management	Tulsa Area Emergency Management Authority	City of Tulsa	Roger Jolliff	Executive Director	
	Planning	American Institute of Architects/University of Oklahoma-Tulsa	Michael Theresa	Birkes ** O'Donnell	2016 President, AIA Eastern Oklahoma/Professor of Practice/Architect	
	Planning Housing & Real Estate	Asset Management Department	City of Tulsa	Mark Weston	Chief Planning Officer	
	Planning	American Institute of Architects	City of Tulsa	Lindsey	Public Safety & Security Manager	
	Education	Tulsa Public Schools	Bob	Ellerbach ** Roberts	Executive Director, AIA Eastern Oklahoma	
	Health	Mental Health Association Oklahoma	Gregory	Shinn	Emergency Manager	
Housing & Real Estate	Tulsa Habitat for Humanity	Todd	Klabenes	Associate Director		
					Director, Family Services	
8	Planning	Planning Division, Planning & Development Department	City of Tulsa	Theron	Warlick *	Planner III
	Disaster & Emergency Management	Tulsa Fire Department	City of Tulsa	Michael	Baker	Chief of Emergency Medical Services
	Education Arts & Culture	Tulsa Community College	Sean Terrie	Sean Terrie	Weins Correll	Vice President, Administration
	Health	Oklahoma Department of Rehabilitation Services	Thaddaeus T.	Babb		Chief Executive Officer
	Stormwater & Environment	Oklahoma Climatological Survey	University of Oklahoma	Tracy	Kennedy	Administrative Programs Officer, Corporate Relations Unit
Housing & Real Estate	First Commercial Real Estate Services Corporation		Mike	Craddock	Executive Director, Communications, Community Engagement, & Planning	
					Vice President, Hospitality Specialist	

Appendix D: Final Work Plan & Run of Show

Work Plan

100RC Tulsa Workshop ● HR&A ● City of Tulsa ● 100RC		Week 1					Week 2					Week 3					Week 4					Week 5					Week 6					Week 7					Week 8								
		Aug 17 - Aug 21					Aug 24 - Aug 28					Aug 31 - Sept 4					Sept 7 - Sept 11 (note Labor Day holiday)					Sept 14 - Sept 18					Sept 21 - Sept 25					Sept 28 - Oct 2					Oct 5 - Oct 9								
		Mon.	Tues.	Weds.	Thurs.	Fri.	Mon.	Tues.	Weds.	Thurs.	Fri.	Mon.	Tues.	Weds.	Thurs.	Fri.	Mon.	Tues.	Weds.	Thurs.	Fri.	Mon.	Tues.	Weds.	Thurs.	Fri.	Mon.	Tues.	Weds.	Thurs.	Fri.	Mon.	Tues.	Weds.	Thurs.	Fri.	Mon.	Tues.	Weds.	Thurs.	Fri.				
Design & Refine	Develop work plan																																												
	Gather city context																																												
	Finalize agenda & venue																																												
	Compile stakeholder list & send invitations																																												
Deliver	Plan workshop logistics																																												
	Develop workshop materials																																												
	Prep facilitators																																												
	Workshop setup, facilitate, break-down																																												
Follow-up	Post-workshop wrap-up																																												
	Develop 100RC workshop report																																												

Run of Show

Resilient Tulsa Agenda-Setting Workshop Run of Show <i>Updated 9/24</i>					
Start time	Length	Program	Detail	Responsible	Equipment / Materials needed
Thursday, September 24 - Helmerich Center for American Research at Gilcrease Museum, 1400 North Gilcrease Museum Rd, Tulsa, OK 74127					
9:00 AM	180 min	Review, coordinate print materials. Purchase flip charts, rent additional easels (if needed)	Review printed materials and supplies (Christina PioCosta-Lahue to meet Miriah Bittencourt at City Hall, 175 E. 2nd St. 15th Floor, Brett's phone: 918-576-5093)	Christina PioCosta-Lahue, Miriah Bittencourt	All printed materials, flip charts, easels
2:30 PM	60 min	Briefing with Mayor (City Hall)	Brief Mayor for workshop and discuss Bellagio Meetings	Brett Fidler, Olivia Stinson	N/A
5:00 PM	60 min	Facility walk through, meet facility staff, review program and presentation, set up furniture	Dry run of program and presentations, oversee furniture set up	Brett Fidler, Olivia Stinson, Jee Mee Kim	Registration table, round tables, chairs, podium, dining tables
5:00 PM	120 min	Drop off and set up press conference and workshop materials	Drop off supplies and printed materials	Christina PioCosta-Lahue, Miriah Bittencourt, Tulsa Comms Team	Registration table materials (nametags, sign-in sheet), break out group materials (easels & flip-charts, participant folders, placards, pens, markers, sticky dots, post-its, table tents marking table numbers, baskets), press conference materials (boards, step and repeat banner)
8:00 PM	0 min	Facility closing	All to exit facility	Program team	N/A
WORKSHOP - Friday, September 25 - Helmerich Center for American Research at Gilcrease Museum, 1400 North Gilcrease Museum Road, Tulsa, OK 74127					
7:00 AM		Arrive on site	Registration and final furniture and materials set-up, set up laptops, portable printer	Brett Fidler, Olivia Stinson, Jee Mee Kim, Christina PioCosta-Lahue	Bring laptops (with presentations pre-loaded and on flashdrives) and printer, additional printed materials, supplies
7:00 AM	30 min	AV arrives and set up	Hook up to laptop, test equipment and Master PPT; test sound; test two wireless mics	Gilcrease staff, Christina PioCosta-Lahue	Wireless mics, all other AV supplies, presentations
8:30 AM	30 min	Catering arrives and set up	Set up breakfast	Gilcrease staff	
8:30 AM	30 min	Facilitator Orientation	Run-through of agenda & exercises	Kaye Matheny, Jee Mee Kim, Facilitators	Facilitator packets, table posters
9:00 AM	30 min	Registration & Breakfast	Includes registration	Miriah Bittencourt and Christina PioCosta-Lahue to staff registration table	Participant packets, sign-in sheet with table numbers, nametags (with table numbers on back), placards, registration table
9:25 AM	5 min	Set up master presentation	Brett Fidler, Olivia Stinson, Andrew Salkin to approach podium	Andrew Salkin, Brett Fidler, Olivia Stinson	Laptop, mic, podium, slides
9:30 AM	5 min	Welcome & Kick-Off	Brett Fidler to welcome participants and kick off workshop: explain 100RC and City's application; introduce full team.	Brett Fidler, Jee Mee Kim	Laptop, mic, podium
9:35 AM	10 min	Introduction to 100RC & Resilience	Olivia Stinson to provide basic overview of 100RC	Olivia Stinson	Laptop, mic, podium, slides
9:45 AM	25 min	Intro to Resilience	Andrew Salkin to present an Intro to Resilience including Tulsa-focused examples, illustrate concepts such as the CRE, respond to Q&A	Andrew Salkin	Laptop, mic, podium, slides
10:10 AM	5 min	Transition to Exercise 1	Transition to tables, set up of supplies, prints; Jee Mee to introduce exercise, facilitators, and team (Christina/Kaye)	Jee Mee Kim, Christina PioCosta-Lahue, Facilitators	
10:15 AM	30 min	Exercise 1: What is Resilience?		Breakout Groups/Table	Easel and easel pads, markers
10:30 AM	15 min	Break food set up	Set up refreshments for break	Gilcrease staff, Christina PioCosta-Lahue to oversee	Coffee, water, snacks?
10:40 AM	5 min	Exercise 1 Wrap Up	Wrap up exercise 1, announce break, and Mayor speech at 11:00	Jee Mee Kim	
10:45 AM	15 min	BREAK			
10:50 AM	10 min	Set-up for Keynote, Mayor Bartlett escort, press coordination, set up tables for Exercise 2	Prep podium and Mayor for keynote	Brett Fidler, Olivia Stinson, Jee Mee Kim, Christina PioCosta-Lahue, Tulsa Comms Team	Laptop, mic, podium, slides
11:00 AM	2 min	Introduction of Mayor Bartlett	Introduction of Mayor Bartlett	Jared Brejcha	Laptop, mic, podium, slides
11:02 AM	15 min	Mayor Bartlett speech	Mayoral speech	Mayor Bartlett	

Continued

11:17 AM	8 min	Mayor speech wrap up, plaque presentation, and photos	Press photos	Mayor Bartlett, Andrew Salkin	Plaque
11:25 AM	30 min	Press briefing with Mayor Bartlett	Mayor Bartlett to address Press outside of conference space	Mayor Bartlett, Andrew Salkin, Olivia Stinson, Tulsa Comms Team	
11:28 AM	2 min	Transition to Exercise 2	Announce Exercise 2	Jee Mee Kim	
11:30 AM	45 min	Exercise 2: Shocks & Stresses Prioritization		Breakout Groups	Prioritization tool table exercise, survey results handout, shocks/stresses notecards, tape, markers, pens; easel & easel pad at front of the room for notes, roving mic
11:45 AM	15 min	Set up for lunch	Set up for lunch	Gilcrease staff	
11:45 AM	5 min	Set up for keynote speaker, keynote speaker prep	Set up keynote presentation, prep speaker	Brett Fidler, Olivia Stinson, Jee Mee Kim	
11:55 AM	2 min	Exercise 2 wrap up reminder	Reminder to wrap up	Jee Mee Kim	
12:05 PM	10 min	Exercise 2: Report backs	Table report backs	Facilitators, Table reps	
12:15 PM	75 min	LUNCH			
12:25 PM	2 min	Keynote speaker intro	Brett Fidler to introduce keynote speaker	Brett Fidler	Speaker bio
12:30 PM	30 min	Keynote speaker commences	Hannibal Johnson to present	Hannibal Johnson	Laptop, mic, podium, slides as needed
1:00 AM	2 min	Speaker thanks, reminder of next exercise		Brett Fidler	
1:20 PM	10 min	Lunch wrap up, table prep		Team	
1:28 PM	2 min	Transition to Exercise 3	End lunch and regroup for Exercise 3	Jee Mee Kim	
1:30 PM	60 min	Exercise 3: City Resilience Diagnostic		Breakout Groups	12-indicator ring poster, sticky dots, facilitator handout, pens, markers; easel & easel pad at front of the room for notes
2:00 PM	10 min	Set up for break	Set up break refreshments	Gilcrease staff	Coffee, water, snacks
2:15 PM	2 min	Time check, reminder to wrap up	Reminder to wrap up	Jee Mee Kim	
2:20 PM	10 min	Exercise 3: Report backs	Facilitator report-back	Breakout Group Facilitators	
2:30 PM	2 min	Wrap up, intro to break, and remainder of day		Jee Mee Kim	
2:30 PM	15 min	Break			
2:35 PM	5 min	Set up tables for Exercise 4	Set up for exercise	Christina PioCosta-Lahue, Jee Mee Kim, Facilitators	
2:40 PM	5 min	Transition to Exercise 4	Reminder to wrap up, transition to exercise 4	Jee Mee Kim	
2:45 PM	60 min	Exercise 4: Key Stakeholders and Related Initiatives		Breakout and full group discussion	Boards, stickies, and markers for notetaking, roving mic
3:45 PM	2 min	Exercise wrap up, Brett Fidler/Olivia Stinson approach podium		Brett Fidler, Olivia Stinson	Laptop, mic, podium, slides
3:45 PM	15 min	Round-up of day & Next Steps	Overview of findings from the day; Next Steps	Brett Fidler	Laptop, mic, podium, slides
4:00 PM	5 min	CRO video	CRO role & responsibilities	Christina PioCosta-Lahue	Laptop, mic, podium, video
4:05 PM	5 min	Closing Remarks	Closing remarks by City of Tulsa	Jarred Brejcha	Laptop, mic, podium, slides
4:00 PM	15 min	Set up for reception	Set up for reception	Gilcrease Staff	Drinks and snacks
4:30 PM	45 min	Collect supplies, printed materials	Assemble materials, thank facilitators	Christina PioCosta-Lahue, Jee Mee Kim	
4:30 PM	90 min	Reception			
6:00 PM	Close of day	Participants leave facility			

Appendix E: Results of All Breakout Sessions

Exercise 1 | What is Resilience?

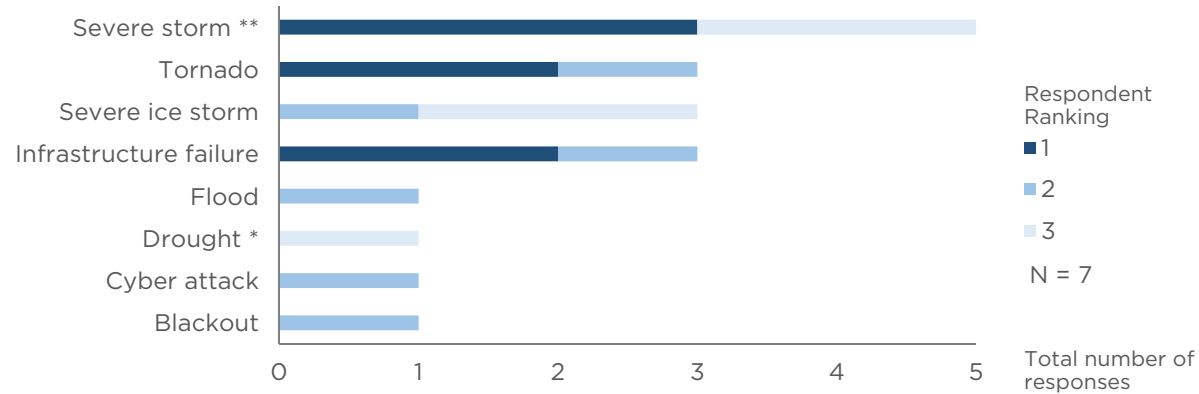
Available participant responses from facilitated table discussions follow:

- Bounce back from adversity
- Plan & design for stability
- Strength - vision & leadership
- Adaptability/diversity
- Redundancy
- Diversification: economy, transportation, growth (balance), housing (quality & affordable)
- Stresses - institutional intolerance (i.e. racism)
- Increasing opportunities in underserved communities
- Perseverance
- Anticipation & imagination: what to expect plus how to solve
- Energizer Bunny
- Subjections [?]
- Weather disasters
- Short/long?
- Different stakeholders at difference scales aligning priorities for the long-term
- Preparing ahead of time for crisis.
- Deal with natural disasters
- Social reconciliation: history
- Acknowledge inequalities
- Respond to shocks & stresses from constantly addressing all areas of the city.
- Build business continuity, disaster recovery of critical infrastructure.
- Enough shelter, food, water
- Communication infrastructure
- Ability to deal with immediate, short-term environmental impact & long-term planning
- How you react/respond
- Bounce back to new normal
- Be pliable & creative
- Going against status quo
- Build back stronger/better
- Reducing complacency
- Addressing chronic stressors
- Individuals' role in reducing vulnerabilities at the community level
- Developing a plan to recover
- Agree with definition; however as individuals & groups we think someone else, the government/a committee, does this - no ownership
- Definition: focused on recovery from disaster. Mitigation is part of resilience. Not all of it, focused on natural disasters & acute impacts - not chronic issues
- Ability to weather the storm
- Ability to withstand adversity
- How quickly you recover from an event
- Long-term capacity/vision about resiliency
- Strategic plan in place
- On-going process; continue working at all times (don't get complacent)
- Ability not to take a hit: "bob & weave" to avoid
- Relationship between mitigation & recovery (shock)
- Identifying stressors as a key indicator of resiliency
- Significant shock events (ice storm) & recovery period
- Service interruption (shock)
- Impact on mental health
- Chronic stressors: contributing to severity of shock.
- Planning for shocks (time & thoroughness)
- Knowing stressors helps mitigate shocks
- Plans for shock events must be flexible
- Communication is key!
- Connection between economic health & resiliency.
- Maintaining readiness every day
- Access: poverty, public health
- Less emphasis on shocks
- Do have emergency plans [for planning]
- Readiness/access/planning [involve/contingent upon] education
- Everybody has a role & responsibility
- There's a short- & a long-term effort
- Fire Dept. must always be ready for shocks - maintaining readiness is tough
- Comprehensive - how we work together
- Reacting to short- & long-term
- Weather - what we do now, how we prevent in future
- Breaking down silos
- Keeping roads open
- Fire Dept = resilience [i.e. public infra]
- Stressors: public health - repeat customers
- Shock - ice storm
- Big issue: funding resilience: sales tax unknowns; investment
- City sheds neglected assets (found new partners)
- Tulsa's philanthropic community & many social service providers provide greatest support in community - we need to build on this
- Contribute [to building resilience]:
- Housing: help get residents opportunity
- Change mindset, inclusion
- Plan, construct, maintain
- Provide jobs/opportunity
- Help Tulsa companies grow which makes city stronger
- Unique philanthropic community
- Oklahoma work ethic

Exercise 2 | Prioritizing Risks

Stress Card Categories	Shock Card Categories	
Drought Lack of affordable housing Poor air quality High unemployment Homelessness Changing demographics Lack of social cohesion Poverty/ inequity Aging infrastructure Shifting macroeconomic trends Crime & violence Environmental degradation Sea level rise Food shortage	Blackout Cyber attack Flood Infrastructure failure Severe ice storm Tornado Severe storm Disease outbreak Earthquake Extreme cold Extreme heat Extreme rainfall Fire Freezing	Hazardous materials accident Hurricane Market crash Mudslide or landslide Riot/civil unrest Snow/blizzard Terrorism Tsunami Volcanic eruption

Top 3 Acute Shocks¹⁵



* Drought also included as shock

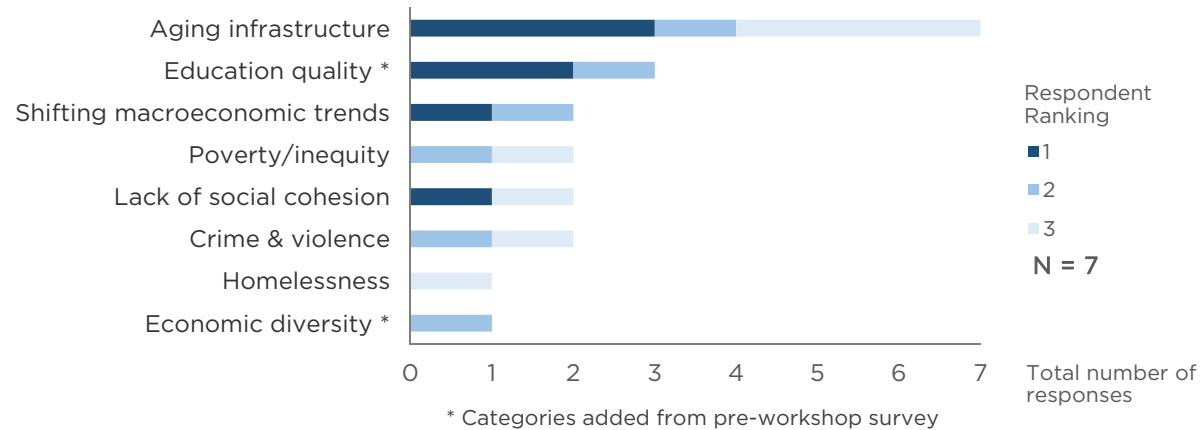
** Responses include "severe weather" within category; one response referring to all 3 was counted only once

Shock Card Categories	1	2	3	Total Mentions	Comments
Blackout		1		1	<i>In combination with weather, could be catastrophic</i>
Cyber attack		1		1	<i>Affects many - growing threats</i>
Drought *			1	1	<i>Water shortage inevitable</i>
Flood		1		1	
Infrastructure failure	2	1		3	<i>Keystone Dam; powergrid</i>
Severe ice storm		1	2	3	
Tornado	2	1		3	
Severe storm **	3		2	5	<i>Severe weather event impacts many; usually manageable, but can still threaten</i>

- General Comments**
- *What did not make it [onto the ranking list] was floods, extreme rainfall, etc. - because we are either used to working with it or have as a community addressed them.*
 - *We described scenarios that, in combination, would be catastrophic. Severe weather plus blackout = unmanageable. Loss of key employer plus poverty plus aging infrastructure = unrecoverable?*

¹⁵ Totals do not include 3 shocks from every respondent.

Top 3 Chronic Stresses¹⁶



Stress Card Categories	1	2	3	Total Mentions	Comments
Economic diversity *		1		1	
Homelessness			1	1	
Crime & violence		1	1	2	
Lack of social cohesion	1		1	2	<i>Lack of social cohesion root of several other issues such as civil unrest</i>
Poverty/inequity		1	1	2	<i>[Also referred to as] income inequality. Another factor that makes other challenges bigger and can become intense when bad things happen</i>
Shifting macroeconomic trends	1	1		2	<i>Economics that impact: shifting macroeconomic (energy, oil); poverty [and] inequality that are impacted by [other] poverty/inequality [resulting from] food shortage and food security; a lot of interconnection. Macroeconomic trends: major employers exiting can be disastrous</i>
Education quality *	2	1		3	<i>Quality education access and graduation rate; impacts [shifting macroeconomic trends, poverty/inequity, food security]</i>
Aging infrastructure	3	1	3	7	<i>Sustainable development & transportation (public, etc.) which is the [reason for the] need for forward planning! [Exacerbated by] insufficient revenue streams that, compounded by other events or conditions, could put us at a tipping point</i>

¹⁶ Totals do not include 3 shocks from every respondent; responses include 2 options provided for one facilitator ranking and only one selection total from another facilitator.

Exercise 3 | City Resilience Diagnostic

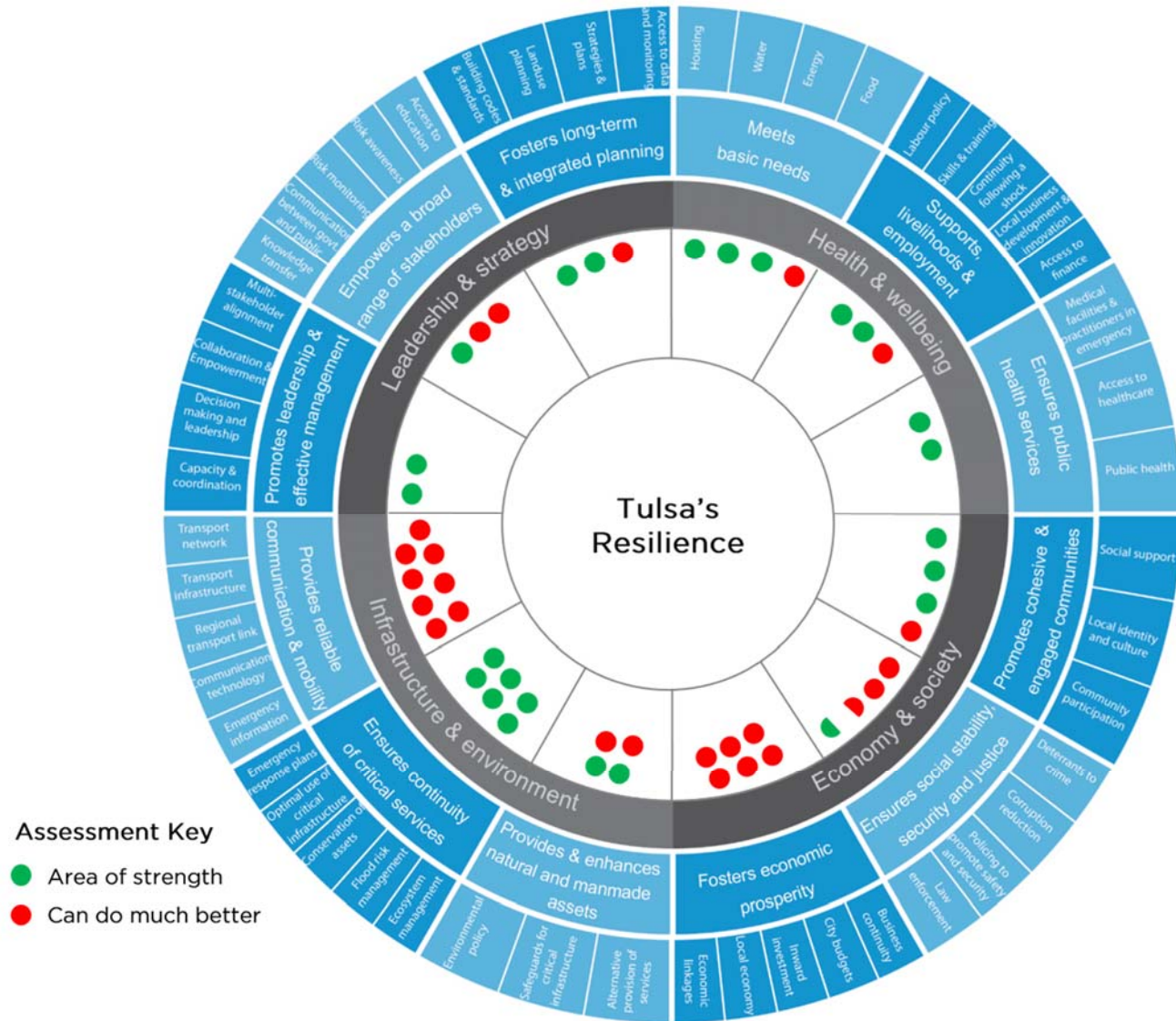
City Resilience Framework Driver Categories

Health & Well-Being	1. Meets basic needs
	2. Supports livelihoods & employment
	3. Ensures Public Health Services
Economy & Society	4. Promotes cohesive & engaged communities
	5. Ensures social stability, security, & justice
	6. Fosters economic prosperity
Infrastructure & Environment	7. Enhances & provides natural & man-made assets
	8. Ensures continuity of critical services
	9. Provides reliable communication & mobility
Leadership & Strategy	10. Promotes leadership & effective management
	11. Empowers a broad range of stakeholders
	12. Fosters long-term & integrated planning

A. Summary of Full-Group Results

Driver	Area of strength	Can do much better
Ensures public health services	2	0
Promotes leadership & effective management	2	0
Supports livelihoods & employment	2	1
Fosters long-term & integrated planning	2	1
Empowers a broad range of stakeholders	1	2
Ensures social stability, security, & justice	0.5	2.5
Meets basic needs	3	1
Promotes cohesive & engaged communities	3	1
Enhances & provides natural & man-made assets	2	2
Ensures continuity of critical services	6	0
Fosters economic prosperity	0	6
Provides reliable communication & mobility	0	8
Total	23.5	24.5

A. Workshop Report-Out Synthesis of Final City Resilience Framework



A. Workshop Report-Out Synthesis of Final City Resilience Framework¹⁷

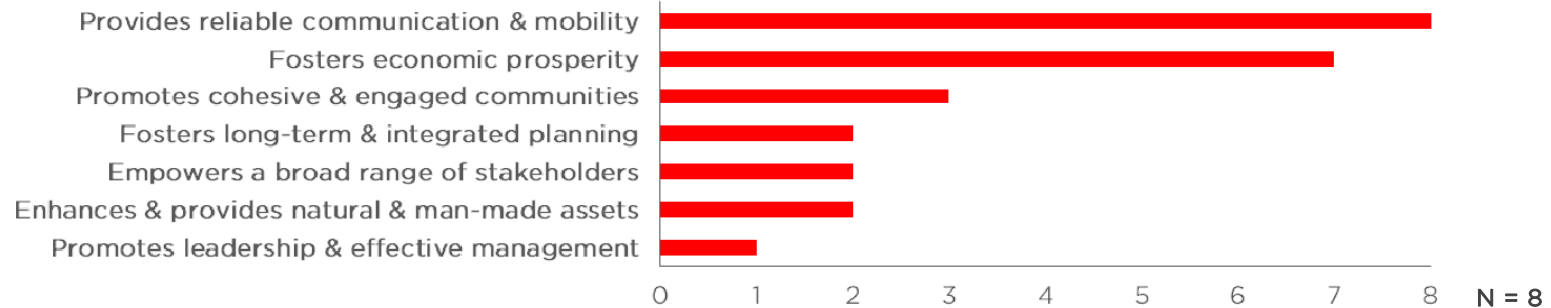


B. Individual Facilitator Responses for Breakout Group Results

	Necessary Improvements	Total Mentions	Strengths & Opportunities	Total Mentions
Health & Well-Being	1. Meets basic needs		1. Meets basic needs	2
	2. Supports livelihoods & employment		2. Supports livelihoods & employment	2
	3. Ensures public health services		3. Ensures public health services	1
Economy & Society	4. Promotes cohesive & engaged communities	3	4. Promotes cohesive & engaged communities	2
	5. Ensures social stability, security, & justice		5. Ensures social stability, security, & justice	
Infrastructure & Environment	6. Fosters economic prosperity	7	6. Fosters economic prosperity	
	7. Enhances & provides natural & man-made assets	2	7. Enhances & provides natural & man-made assets	2
	8. Ensures continuity of critical services		8. Ensures continuity of critical services	4
Leadership & Strategy	9. Provides reliable communication & mobility	8	9. Provides reliable communication & mobility	
	10. Promotes leadership & effective management	1	10. Promotes leadership & effective management	3
	11. Empowers a broad range of stakeholders	2	11. Empowers a broad range of stakeholders	1
	12. Fosters long-term & integrated planning	2	12. Fosters long-term & integrated planning	1

¹⁷ Facilitator report-outs during the workshop (A.) and responses at its conclusion (B.) provide slightly different figures, so both are provided.

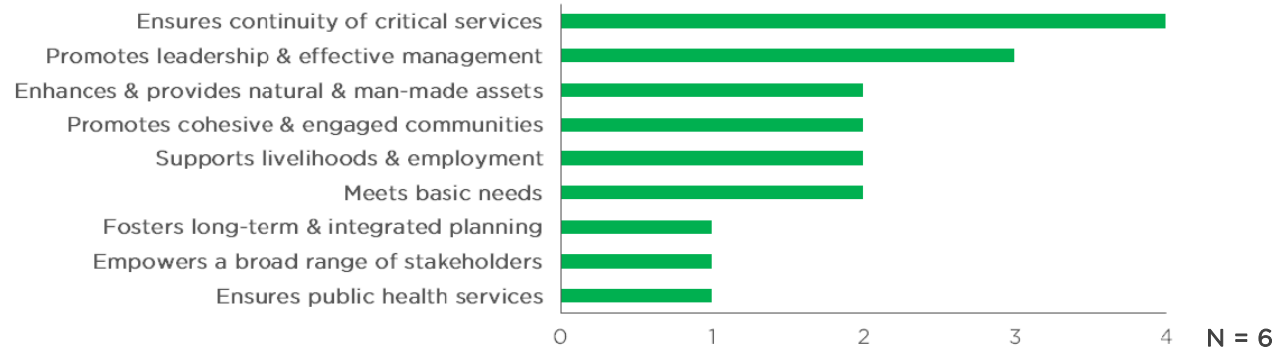
B. Individual Facilitator Responses for Necessary Improvements¹⁸



Drivers	3-Driver Selections			Total Mentions	Comments
Promotes leadership & effective management		1		1	
Enhances & provides natural & man-made assets		1	1	2	<i>Reduced physical exposure: transportation infrastructure poor Reduced physical exposure: land use planning, protecting green space</i>
Empowers a broad range of stakeholders		1	1	2	<i>See first comment below Education, good ol' boy system</i>
Fosters long-term & integrated planning			2	2	<i>Integrated development: These were yellows (that really lead to red - due to the need for leadership to move us toward managing our collective (across different municipalities) ability and impact for improving all components in the wheel of drivers The City has great plans (such as Hazard Mitigation Plan) but no long-term recovery plan and no funds to implement any actions. Need stronger, more disaster-resilient building codes such as fortified homes from IBHS [Insurance Institute for Business & Home Safety]</i>
Promotes cohesive & engaged communities	1	1	1	3	<i>Collective identity and mutual support Social cohesion vastly needs to be improved</i>
Fosters economic prosperity	3	3	1	7	<i>Finance including contingency funds: [all respondents referred to contingency funds] Finance including contingency funds: lack diversity of revenue sources; too dependent on sales tax Finance including contingency funding: Tulsa's revenue streams are limited and new sources must be identified; more businesses need continuity planning; Tulsa must invest in itself Cannot continue to provide same services without increasing taxes Too dependent on large employers and benevolent foundations; City revenue streams fragile and streams volatile</i>
Provides reliable communication & mobility	4	1	3	8	<i>Reliant [reliable] mobility and communications; public transportation for all the community, but specifically for those within poverty range Poor public transit logistics Poor transportation (aging infrastructure, weak public options), unequal access to communication/technology/information Poor transit/transportation system Alternative transportation Difficult for disabled, and any bus-dependent population</i>

¹⁸ Two options were provided for one answer; based on a respondent's explanation, one answer was reallocated to a different category than the one stated; responses without mention of a specific driver are represented by the closest proxy. Two descriptions [i.e. sub-drivers] from one facilitator translated to the same driver and were counted individually.

Individual Facilitator Responses for Areas of Strength¹⁹



Drivers	3-Driver Selections		Total Mentions	Comments
Ensures public health services	1		1	<i>Multiple healthcare facilities with access for all; redundancy to manage emergencies effectively</i>
Empowers a broad range of stakeholders		1	1	<i>Higher education has grown and has good coordination. ... Very cordial and cooperative. Good K-12 outreach</i>
Fosters long-term & integrated planning	1		1	<i>Planning and development are a strength even though we haven't "arrived"</i>
Meets basic needs	1	1	2	<i>Great at the basics (not as great at more sophisticated quality of life issues) Minimal human vulnerability</i>
Supports livelihoods & employment	1	1	2	<i>Good jobs, 4% unemployed, vacuum for skilled labor, strong business base - small businesses</i>
Promotes cohesive & engaged communities	1	1	2	<i>Collective identity and mutual support: philanthropic efforts, collaboration, and community involvement are strong Strong neighborhood associations and leaders; resourceful faith-based organizations always willing to help during a crisis</i>
Enhances & provides natural & man-made assets	1	1	2	<i>Reduced physical exposure [mentioned twice]; wastewater, flood, water systems adequate; emergency management efforts are robust.</i>
Promotes leadership & effective management	2	1	3	<i>Inclusive, effective govern[ance]; city vs. regional governments [question re: effectiveness] Examples like this: United Way as clearinghouse much better at planning than execution</i>
Ensures continuity of critical services	2	1	4	<i>Emergency responses Robust floodplain management program (mainly a grassroots, citizen-driven initiative now managed by the city); world-class first responders</i>

¹⁹ Totals do not include 3 drivers from every respondent; responses without mention of a specific driver are represented by the closest proxy

Exercise 4 | Key Stakeholders & Related Initiatives

Stakeholders

AEP (American Electric Power)/PSO (Public Service Company of OK) x2
 African American community
 American Red Cross x3
 Arkansas River Task Force
 Army Corps
 Arts & humanities/groups/organizations x3
 ASCE (American Society of Civil Engineers)
 Building Owners & Managers Association (BOMA)
 CAP TULSA
 Chambers of commerce x2; Regional Chambers of Commerce
 Citizens
 Civic Ninjas
 Community at large stakeholders
 Community diversity - underserved groups
 Community service council
 COX Communications [privately owned digital cable communications]
 Cultural or quality of life institutions
 Day Center for Homeless x2
 Developers/construction companies/contractors/real estate development community x4
 DHS
 Diverse groups representing all faiths & ethnic groups in Tulsa
 Diversity community groups
 Emergency response teams (e.g. hospital/ambulance/fire)
 Entrepreneur efforts
 Faith-based organizations
 Farmers/landowners
 Federally-funded healthcare systems
 FEMA x2
 Financial institutions/banking/financing x2
 Food Security Council/Insecurity x2
 Greenwood & Southwest Chambers
 GTAR Realtors

Habitat for Humanity
 Health & education representatives
 Higher education/academia x2
 Hispanic Chamber x3
 Hispanic community x2
 Holly[Frontier] Refinery [crude oil refinery]
 Homebuilders Association
 Homeless charity/city representatives/Homeless centers x2 (including John 3:16 ed. [Mission])
 Hospitals/healthcare clinics
 HUD
 INCOG x2
 Insurance industry
 John Hope (Franklin) Reconciliation Center x2
 Langston
 Language Culture Bank
 Law - Bar Association
 Law enforcement x2
 Legal AID
 Magellan [Midstream Partners, L.P.] [refined petroleum products pipeline system: gas, diesel, crude oil]
 Media/media management (truthful reporting) x2
 Mental health associations/MHAT Mental Health Association of Tulsa x3
 Ministerial Alliance etc.
 Minority Chambers of Commerce x2
 Neighborhood Associations x4
 Neighborhood leaders
 Neighboring communities
 Nonprofits
 ODOT x4
 OEM
 OFMA floodplain managers
 OK Climate Survey
 OK Dept of Environmental Quality X2
 OK Silver Jackets
 OK Water Resources Board (OWRB)

OKEQ (Oklahomans for Equality/OkEq)
 Oklahoma Conservation District
 ONG (Oklahoma Natural Gas) x2
 ORU (Oral Roberts University)
 OSU (Oklahoma State University) x2
 Philanthropic institutions/foundations x2
 Private sector/(large) businesses/big corporate/More business leaders & execs x5 - including QT, Williams x2, American Airlines x2, Bok)
 Private transportation providers
 Public health
 SAME military engineers
 Senior services
 Social workers
 Stormwater Drainage Hazard Mitigation Advisory Board
 SW Chamber of Commerce
 TCC (Tulsa Community College)
 TPD (Tulsa Police Department) x2
 Transportation x2
 Tribal nations
 (Tulsa) Public Schools (including K-12) x5
 Tulsa (Regional) Chamber
 Tulsa Child Care Resources Center
 Tulsa County
 Tulsa Health Dept x3
 Tulsa Housing Authority (THA)
 Tulsa Technical College
 TYPROS x2
 Underprivileged/vulnerable community representatives
 United Way
 USDA
 Utility companies/organizations/gas, electric, water x3
 Voad
 YMCA
 Younger age groups/schools
 YPA (Youth Philanthropy Association)
 YWCA

Initiatives

"Go" Plan
 (New) Zoning code implementation x2
 100% graduation rate TPS
 AIA Safety Assessment Program
 Alternative city funding sources
 Alternative transportation for workforce purposes
 Charter for Compassion
 Community governance
 Community in schools
 Community policing
 Comprehensive Plan
 CRS Program (Floodplain) PPI
 Cultural celebration
 Fast Forward Long-Range transportation plan
 Finance Mitigation Plan
 Floodplain and stormwater plans
 Fortified homes standard
 Fund public transit infrastructure and operations
 Gathering place
 Hazard Mitigation Committee Mitigators
 Hazard Mitigation Plan (Comprehensive) x3
 IBHS Fortified Home Program
 IMPACT TULSA x2 (includes mention as stakeholder)
 Improve our Tulsa implementation x2 [capital improvement plan]
 Increasing aspiration (educate and facilitate) adults and kids
 Land use planning
 Low-density living transportation options

OK Water Resources Plan
 Oklahoma Works
 One Voice process
 OU TU School of Community Medicine
 Parks master plan
 Phase II of Lewin study implementation - health
 PlaniTulsax2
 Post-emergency assessment plan
 Program for Public Info (COT with Tulsa Partners)
 Redevelopment rather than new development
 Regional workforce analysis
 Resiliency workshop
 Small area plans (COT) - focused long-range plans - x2
 Subdivision regulations
 Super regional transportation plan: air, train, bus - multi-modal
 Support/retain small business
 Sustainability Plan x2
 Sustainable Tulsa scorecard
 TPS Community Schools [Tulsa Area Community School Initiative]
 TPS Strategic Plan
 Tulsa Fire Community Health Initiative
 Tulsa Sustainability & Energy/Water Plan
 Vision 2
 Workforce Development Plans (ties employers to educational institutions)
 Workforce Innovation and Opportunity Act (WIOA) x2
 Zoning

Appendix F: Output Documents from Workshop | Facilitator Debriefs

<p>1. How do participants currently define and talk about resilience? What is most commonly associated with resilience?</p>
<p><i>Prepared for disasters; engaging and assisting our marginalized community</i></p> <p><i>Sustainability, community health and continuity</i></p> <p><i>Resilience is recognized as the ability to endure a disruption and bounce back to a new normal. Resilience is associated with working with partners, being pliable and creative with resources, learning from others, and developing plans to recover from shocks.</i></p> <p><i>Bouncing back to a better place than pre-shock or continued stress; imagination and adaptability to adapting to events and being flexible</i></p> <p><i>The talk shifted from disaster to workplace mobility and public transportation. Economic stability, housing, everything hinged on people being able to effectively travel within their community.</i></p> <p><i>Before today they defined resilience as response to a shock. They became far more aware of the underlying stressors as a result of today's workshop. They understand the relationship between stressors and shocks.</i></p> <p><i>More emergency and short-term focused: floods, disasters versus social and economic.</i></p> <p>N/A</p>
<p>2. What current resilience-building work was most commonly referenced at your table? Who are the biggest players in these efforts?</p>
<p><i>Plans: Go Plan, PlaniTulsa, COT Sustainability Plan; COT; INCOG; other municipalities</i></p> <p><i>Philanthropic families and their multi-year goals; City of Tulsa and Regional Chamber "Vision" initiatives; biggest should be City of Tulsa but trends to be philanthropic community and their vision long-term.</i></p> <p><i>City of Tulsa Floodplain Management Program and Hazard Mitigation Program were discussed most frequently. The biggest players are Tulsa Partners, the City of Tulsa and Stormwater Drainage Hazard Mitigation Advisory Board, as well as citizens who act as leaders to drive change and implement plans of action.</i></p> <p><i>Transportation, education, community policing and governance, keeping young people staying in Tulsa after graduation</i></p> <p><i>Inclusion of other ethnicities and cultures. Mayor's Office of Human Rights, Tulsa Public Schools, Tulsa Partners</i></p> <p><i>Flood management system, emergency response system, lack of social cohesion, comprehensive and equitable transportation. Players are City of Tulsa, United Way and other nonprofits, ODOT/City transportation planners/Tulsa Transit.</i></p> <p><i>Flood mitigation - City of Tulsa Engineering</i></p> <p>N/A</p>
<p>3. In what direction do you feel the conversation and resilience-related work are going in the City?</p>
<p><i>Still observing ...</i></p> <p><i>Positive direction to identify risks and address same</i></p> <p><i>This team recognizes that we have considerable strengths in some established areas, but even more vulnerable populations and potential shocks that must be addressed. Community education and engagement in the process for planning for resilience is necessary to reduce social vulnerabilities.</i></p> <p><i>Connecting the right groups in an inclusive discussion for ongoing progress; breaking down siloed information.</i></p> <p><i>Tulsa is very good at planning. Increasing our hazard mitigation and operation plans to include the most vulnerable, while still promoting growth and development, is key.</i></p> <p><i>I think it is moving in a positive direction, but there must be unwavering commitment from City leadership (Mayor/Council).</i></p> <p><i>Connecting with vulnerable and underrepresented people/groups.</i></p> <p>N/A</p>

4. Workshop assessment: How well did each exercise work? What would you improve?

Great engagement tools. Make sure the packet info and charts match. We felt there were too many green dots - kind of forced to make a decision.

Outstanding workshop! Wouldn't change anything

The exercises helped participants better understand resilience and the shocks/stresses that impact Tulsa (including items that they had never considered before). Exercise 3 was a bit complex, lengthy, and was a bit confusing (4 dots vs. 3 dots). The drivers could have been made shorter and more concise. [In packet noted discrepancy in # strengths b/w ex. guide (4) and actual (3); different colors for sticky notes than in packet (both same color)]

Exercises were good. Improvement on graphics in exercise 3 - wheel did not match handout, bolder division lines between graphics - label A, B, C, D, for easier readability of groups?

#1 great, #2 great, #3 confusing. Materials were contradictory. [Noted discrepancy in # (3 vs. 4)]

The exercises were good overall. #1 was a little enigmatic. A little more focus would be better. #2 needs more time. It is a difficult exercise and could not be completed in the time allowed. #3 align the 8.5x11-in. information with the large sheet. #4 was good.

Very well. Pressed for time but tolerable.

N/A

Appendix G: Pre-Workshop Research Findings & Analysis

Pre-Workshop All-Participant Survey

Participants were invited to complete a pre-workshop survey. As of the workshop, 48 participants completed the survey in total.²⁰ Survey results are summarized below.

Survey Options | Shocks & Stresses

Shocks	Stresses	
Tornadoes/wind storms	Aging infrastructure	Land use & availability
Infrastructure or building failure	Education quality & access	Energy affordability/continuity
Flooding	Transportation network quality	High unemployment
Drought/water shortages	Economic diversity & vibrancy	Environmental degradation
Snow/winter storms	Crime/safety	Tree health/invasive species
Hazardous materials accident	Poverty/income inequality	Insect-borne disease
Riot/civil unrest	Diversity/inclusiveness	Loss of agricultural land
Disease outbreak	Healthcare	
Extreme temperatures	Homelessness	
Landslides/rock falls	Affordable housing	
Terrorism/security	Water quality	

²⁰ As of the workshop material print deadline, 43 respondents had completed the survey, and the workshop presentation featured these results. However, as of the workshop the number of survey submissions increased to 48. Results of all 48 respondents are included in the report and thus may differ slightly from figures presented during the workshop.

Options provided during workshop Exercises 1 and 2 differed somewhat from survey options presented; participants added missing categories as needed during exercises.

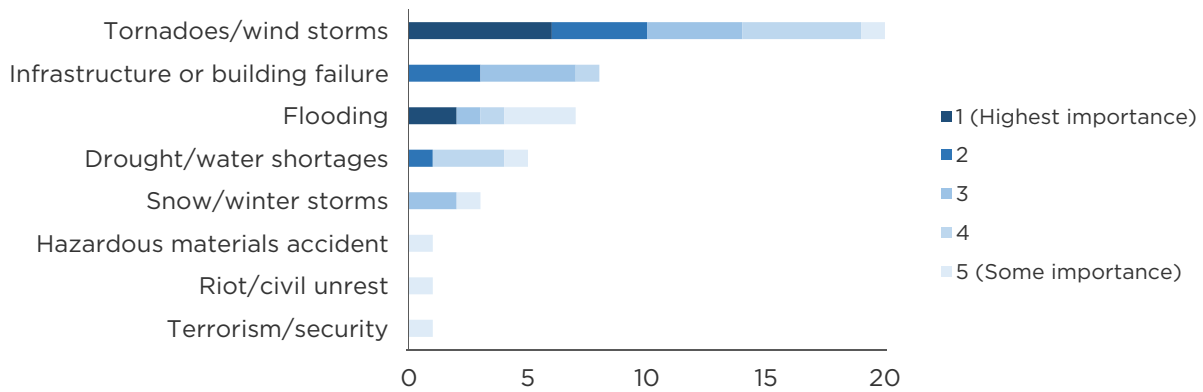
Shocks

Q1a. With 1 being the highest, rank the top 5 risks or issues you see as the highest sources of *acute shock in the near-term* (i.e. today and over the next 5-10 years):

Answer Options	1 (Highest importance)	2	3	4	5 (Some importance)	Total
Tornadoes/wind storms	6	4	4	5	1	20
Infrastructure or building failure	0	3	4	1	0	8
Flooding	2	0	1	1	3	7
Drought/water shortages	0	1	0	3	1	5
Snow/winter storms	0	0	2	0	1	3
Hazardous materials accident	0	0	0	0	1	1
Riot/civil unrest	0	0	0	0	1	1
Terrorism/security	0	0	0	0	1	1
Disease outbreak	0	0	0	0	0	0
Extreme temperatures	0	0	0	0	0	0
Landslides/rock falls	0	0	0	0	0	0

Other:

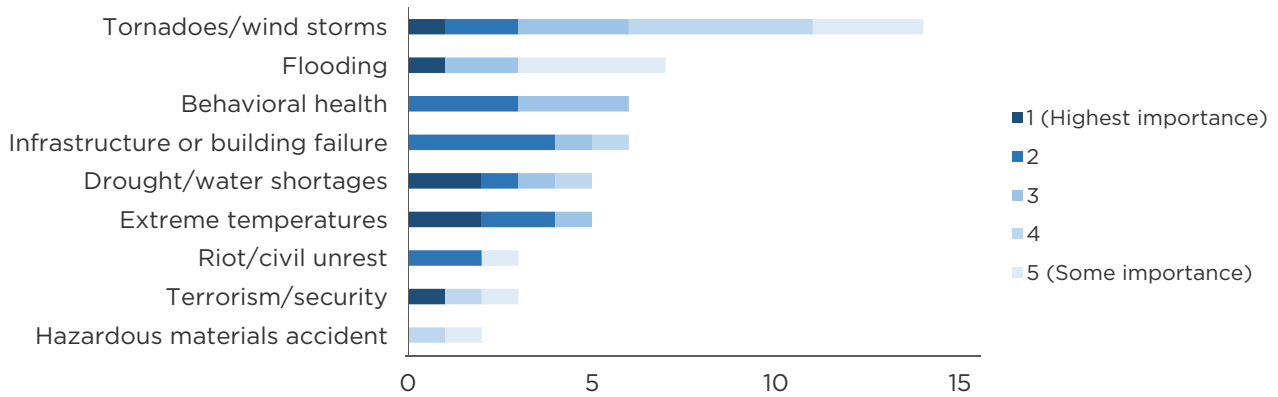
- Earthquakes



N = 47

Q2a. With 1 being the highest, rank the top 5 risks or issues you see as the highest sources of *acute shock over the long-term* (i.e. up to 50-75 years):

Answer Options	1 (Highest importance)	2	3	4	5 (Some importance)	Total
Tornadoes/wind storms	1	2	3	5	3	14
Flooding	1	0	2	0	4	7
Behavioral health	0	3	3	0	0	6
Infrastructure or building failure	0	4	1	1	0	6
Drought/water shortages	2	1	1	1	0	5
Extreme temperatures	2	2	1	0	0	5
Riot/civil unrest	0	2	0	0	1	3
Terrorism/security	1	0	0	1	1	3
Hazardous materials accident	0	0	0	1	1	2
Disease outbreak	0	0	0	0	0	0
Landslides/rock falls	0	0	0	0	0	0
Snow/winter storms	0	0	0	0	0	0



N = 45

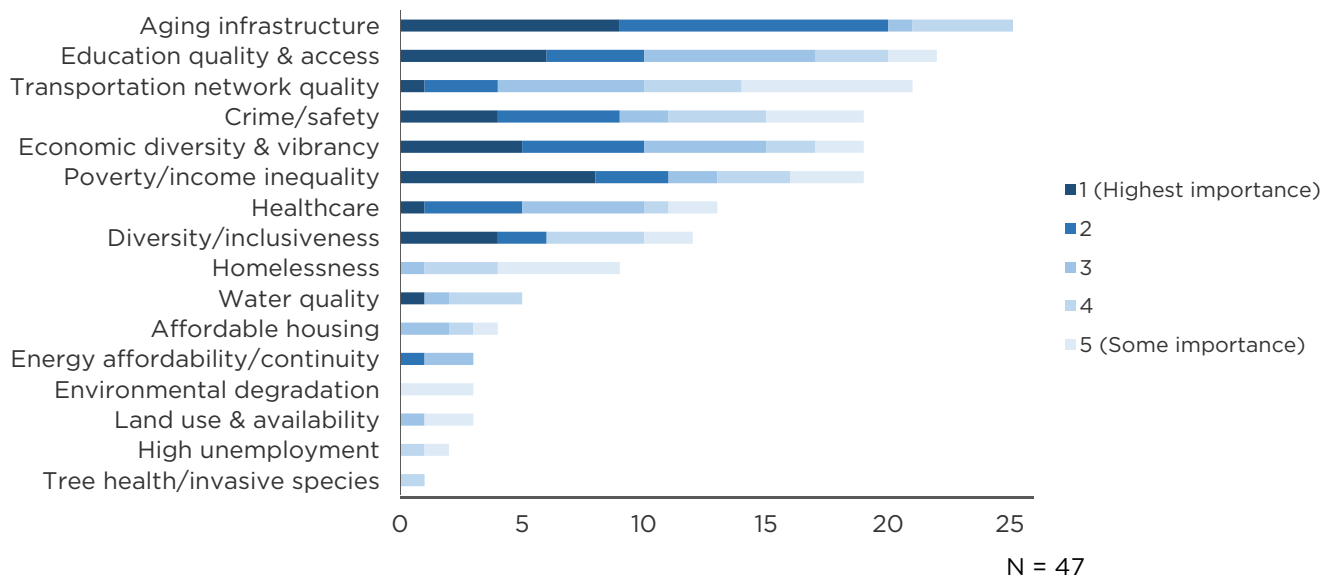
Stresses

Q1b. With 1 being the highest, rank the top 5 risks or issues you see as the highest sources of *chronic stress in the near-term* (i.e. today and over the next 5-10 years):

Answer Options	1 (Highest importance)	2	3	4	5 (Some importance)	Total
Aging infrastructure	9	11	1	6	1	28
Education quality & access	6	4	7	3	2	22
Transportation network quality	1	3	6	4	7	21
Crime/safety	4	5	2	4	4	19
Economic diversity & vibrancy	5	5	5	2	2	19
Poverty/income inequality	8	3	2	3	3	19
Healthcare	1	4	5	1	2	13
Diversity/inclusiveness	4	2	0	4	2	12
Homelessness	0	0	1	3	5	9
Water quality	1	0	1	3	0	5
Affordable housing	0	0	2	1	1	4
Energy affordability/continuity	0	1	2	0	0	3
Environmental degradation	0	0	0	0	3	3
Land use & availability	0	0	1	0	2	3
High unemployment	0	0	0	1	1	2
Tree health/invasive species	0	0	0	1	0	1
Insect-borne disease	0	0	0	0	0	0
Loss of agricultural land	0	0	0	0	0	0

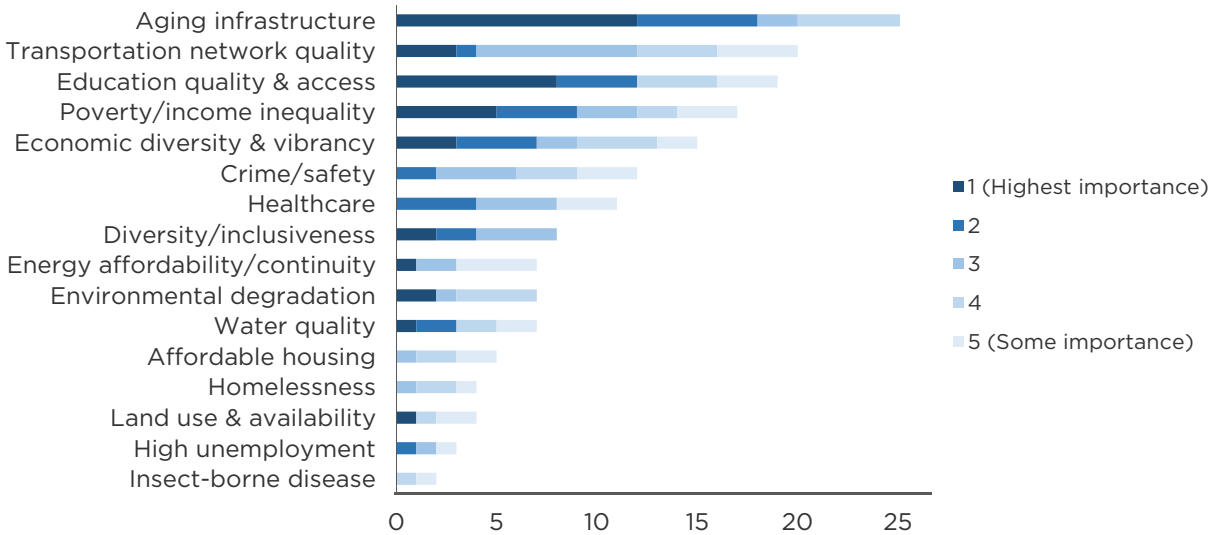
Other:

- Inclusion and accessibility for individuals with disabilities
 - Income disparity
 - Visionary leadership
- Water use, reuse, and efficiency to maintain abundant water supplies



Q2b. With 1 being the highest, rank the top 5 risks or issues you see as the highest sources of *chronic stress over the long-term* (i.e. up to 50-75 years)

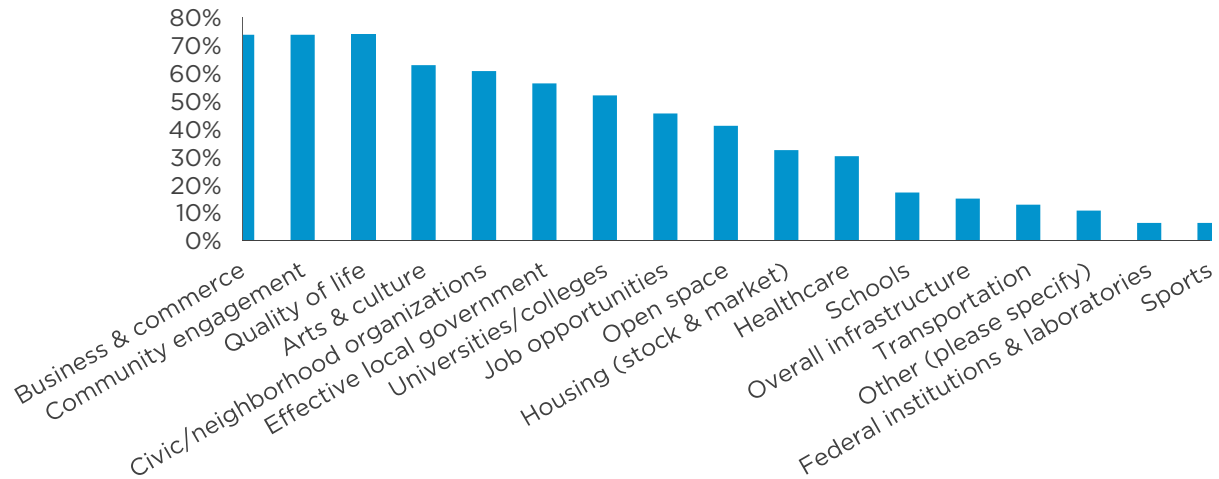
Answer Options	1 (Highest importance)	2	3	4	5	Total
Aging infrastructure	12	6	2	6	3	29
Transportation network quality	3	1	8	4	4	20
Education quality & access	8	4	0	4	3	19
Poverty/income inequality	5	4	3	2	3	17
Economic diversity & vibrancy	3	4	2	4	2	15
Crime/safety	0	2	4	3	3	12
Healthcare	0	4	4	0	3	11
Diversity/inclusiveness	2	2	4	0	0	8
Energy affordability/continuity	1	0	2	0	4	7
Environmental degradation	2	0	1	4	0	7
Water quality	1	2	0	2	2	7
Affordable housing	0	0	1	2	2	5
Homelessness	0	0	1	2	1	4
Land use & availability	1	0	0	1	2	4
High unemployment	0	1	1	0	1	3
Insect-borne disease	0	0	0	1	1	2
Loss of agricultural land	0	0	0	0	0	0
Tree health/invasive species	0	0	0	0	0	0



N = 45

Tulsa's Resilience Assets

Q3. What are the key assets that make Tulsa resilient today? (Check all that apply).



N = 46

Answer Options	Response Percent	Response Count
Business & commerce	73.9%	34
Community engagement	73.9%	34
Quality of life	73.9%	34
Arts & culture	63.0%	29
Civic/neighborhood organizations	60.9%	28
Effective local government	56.5%	26
Universities/colleges	52.2%	24
Job opportunities	45.7%	21
Open space	41.3%	19
Housing (stock & market)	32.6%	15
Healthcare	30.4%	14
Schools	17.4%	8
Overall infrastructure	15.2%	7
Transportation	13.0%	6
Other (please specify)	10.9%	5
Federal institutions & laboratories	6.5%	3
Sports	6.5%	3

- Other (please specify):**
- Affordability
 - Visionaries
 - Philanthropic institutions (foundations and corporations)
 - Philanthropic foundations which seem to be implementing a sustainable, strategic plan
 - Area tribes

Q4. What do you see currently as Tulsa’s most important efforts to strengthen and build the future resiliency and viability of the city? List all that apply.

Open-Ended Response N = 38

Specific themes emerged from responses as categorized below, with multiple enumerations from a respondent separated into multiple bullets:²¹

Fostering collaboration

- Engaging civic and neighborhood organizations to take ownership to partner with governmental agencies
- Regional approach
- Economic diversification and cooperation between the public and private sectors
- Building a welcoming, inclusive community
- Positive relationship between City government and citizens
- Partnerships between government and citizens
- Local government cooperation to meet goals
- Active assistance to communities in need in state and region due to tornadoes and other weather-related storms
- Convening stakeholders to assess challenges and measure[ing] progress
- Nonprofits/philanthropy working on a variety of the issues that can impact our overall health as a city

Civic engagement

- VIP Coalition and other civic engagement efforts to increase access to democracy
- Code for Tulsa making government transparent and accessible
- Oklahoma Policy Institute
- **Youth**
 - TYPros and others trying to make Tulsa more attractive to young professionals, especially those seeking a diverse, creative community
 - Retaining Oklahoma college graduates & young professionals (TYPROS)
 - Building programing and opportunities for youth for leadership development

City planning & policy

- Vision funding for transportation and the river
- Vision 2025
- Comprehensive Plan, New Zoning Code, Land Use Planning
- Recent Comprehensive and Sustainability plans
- The proactive attitude to address these issues before they happen
- 100 Resilient Cities opportunities
- Involvement in the 100 Resilient Cities network

Infrastructure & mitigation

- Improvement of flood protection infrastructure using sustainable approaches with green space
- Remnants of the floodplain and hazard mitigation programs
- Addressing aging infrastructure
- Hazard Mitigation Plan
- Continued capital improvement projects to restore and improve infrastructure
- Hazard mitigation planning & implementation
- Continuation of the Vision tax for capital expenditures
- Building a stronger IT infrastructure as we resurface streets
- Current Stormwater Management Plans
- Floodplain management improvements made since historic floods of the 1980’s
- Parks

²¹ Often responses corresponded with more than one theme, but each appears within only one primary category for the purposes of generating a list.

Public awareness

- Department of Public Works efforts to educate residents about hazards
- Increased awareness of the need for resiliency planning
- Floodplain regulation and public information/involvement
- Disaster preparedness outreach to citizens
- State-of-the-art weather-tracking radar by all local TV stations
- Efforts must be guided to develop a mindset of resiliency from the individual, to the family, to the company, to the community leadership, to the whole community, and this mindset must lead to actions that build and sustain a cohesive community focused on resiliency for all of us
- Citizens increasing awareness
- IBHS Fortified Home
- Tulsa Partners, Inc.
- Sustainable Tulsa

Vulnerable populations

- A Way Home for Tulsa and other efforts to combat chronic homelessness, especially using "housing first" models
- The Language & Culture Bank, working to reach Low English Proficiency populations in the event of emergencies and disasters
- Innovative food security programs like Open Table Community Cafe, StoneSoup Community Venture/Tulsa's Table, A Third Place Community Foundation, and the Healthy Community Store Initiative
- Adequate access to food and healthcare for all citizens Improve air quality
- Address change in demographics and poverty
- Affordable housing
- CAP [Community Action Project]
- Proposed walkability and bikeability projects (e.g. The Hub, Center of the Universe transit hub, bike sharing, sidewalk expansion, streetlights, etc.) that make Tulsa easier to navigate for low-income people and others without reliable transportation

Economic development

- Tulsa Chamber's Mosaic initiative, the Return on Inclusion Summit, and other inclusion initiatives opening up the job market to a diverse workforce
- OCCJ's Return on Inclusion Business Programs
- Tulsa Partners Inc.'s Business Continuity trainings
- Improve business and commerce
- Cultivation of companies for diverse job opportunities
- Business friendly environment with a focus on diversification of industries
- Focus on sustainability (business retention and attraction through the promotion of sustainability)
- Economic development
- Diversity in job market
- Oklahoma Works
- *Downtown expansion*
 - Downtown rejuvenation
 - Downtown development and the strengthening of the urban core (with some risk of gentrification deepening economic inequality)
 - Downtown expansion
 - Redevelopment and housing in and near downtown
 - Development of downtown
 - Revitalization of downtown to bring outside industries to Tulsa
 - Providing more entertainment in the downtown (BOK Center, Downtown Renovations for living & more restaurant additions for evening & weekend dining)
 - The rebirth of downtown
 - Tulsa Now

Education

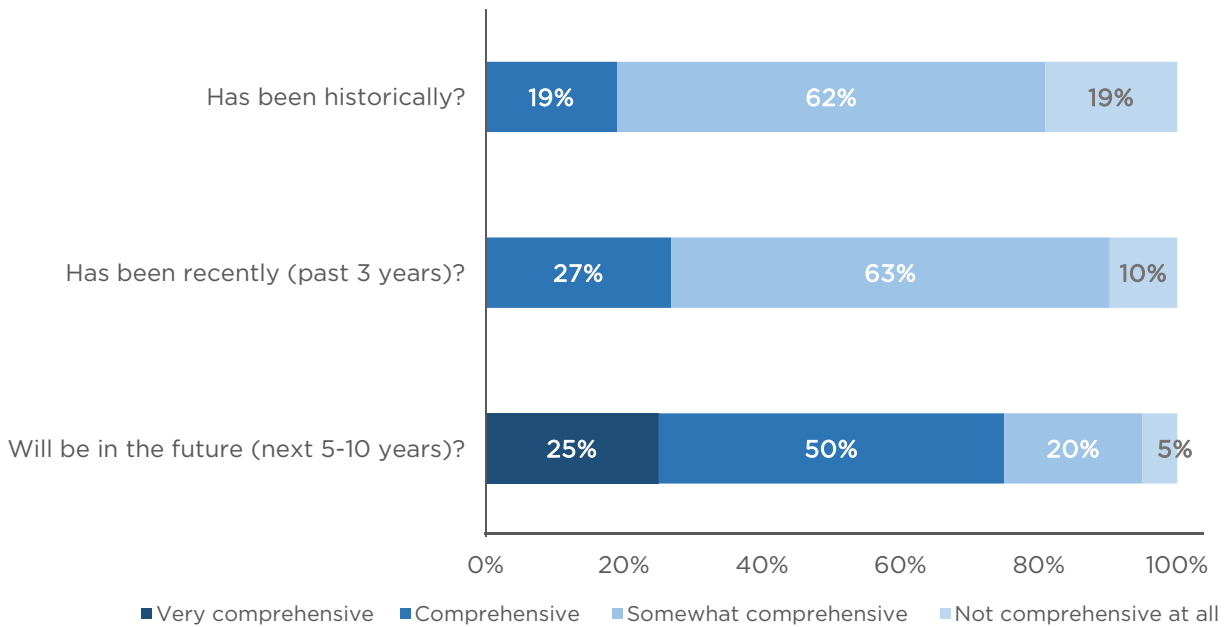
- School of Community Medicine
- Education
- Efforts to improve public education
- Increased emphasis on K-12 and higher education
- Focus on education, post-high school technical colleges
- Improve schools

Health & safety

- Quality of life venues
- Healthcare/mental health care expansion
- Focus on quality of life from a public safety perspective
- Fairly mild climate

Q5. From the options below and considering the topics in previous questions, how comprehensive do you think Tulsa’s resilience...

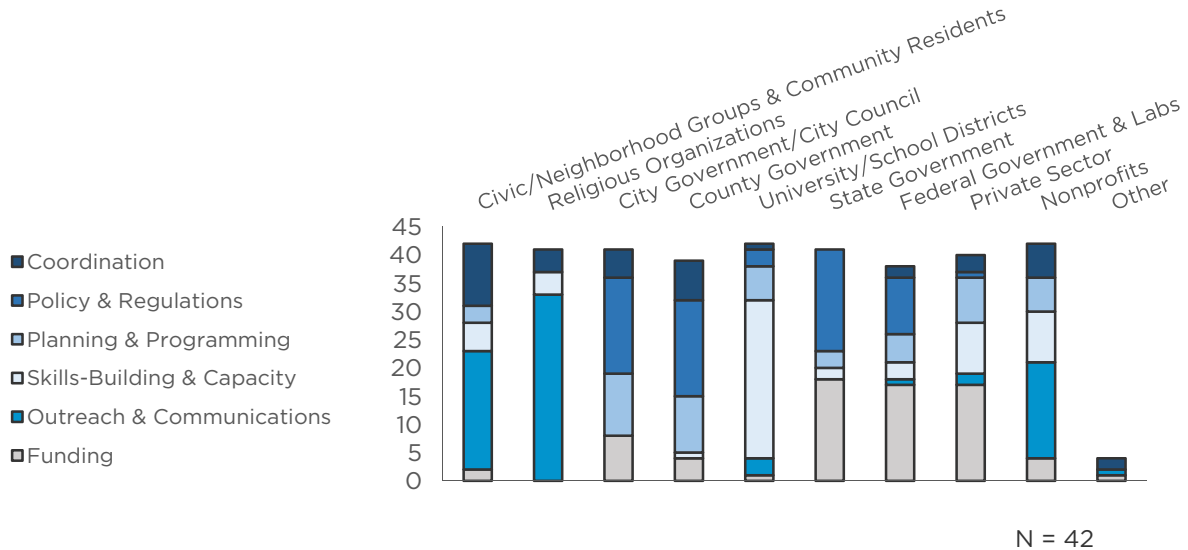
- a) has been historically;
- b) has been recently (past 3 years); and
- c) will be in the future (next 5-10 years)?



N = 42

Tulsa's Resilience Stakeholders

Q6. What are the key responsibilities of the following groups in strengthening Tulsa's resilience? (Check all that apply).

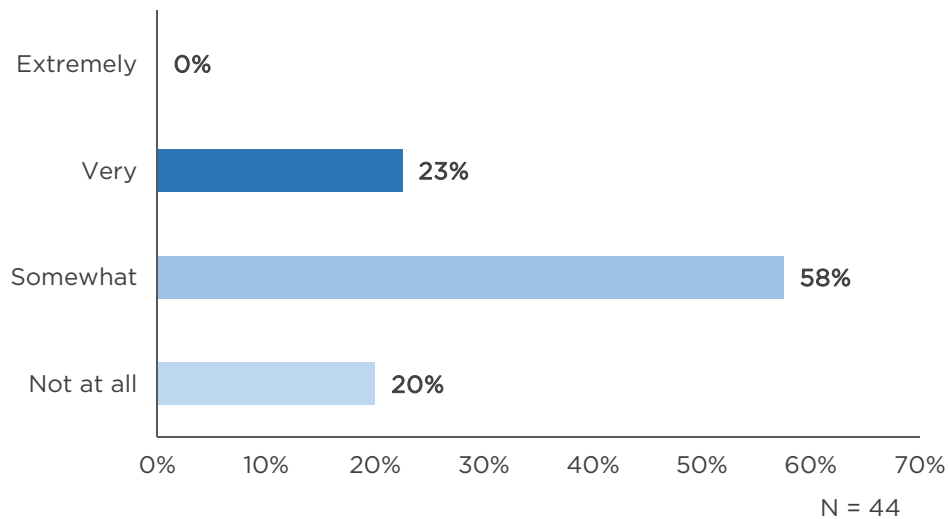


Other (Respondent comments):

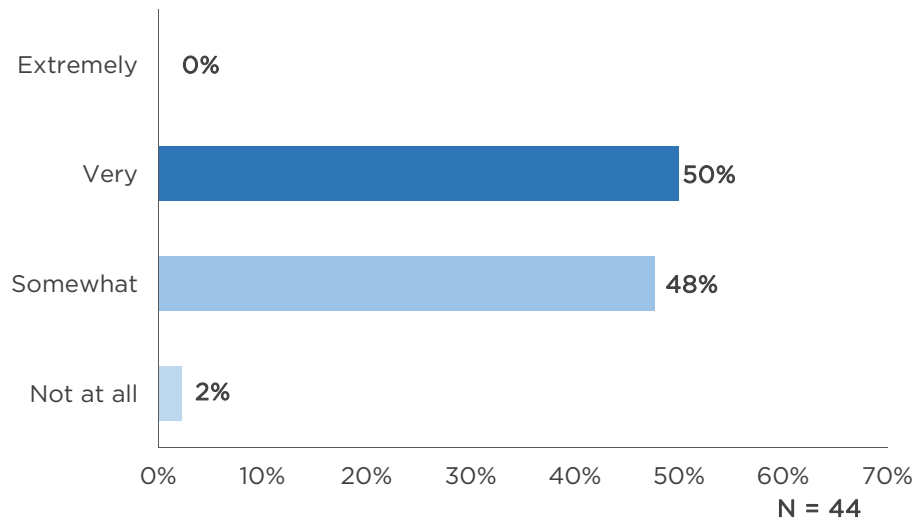
- This question did not allow for check all as apply, but only one per group. Therefore I could not mark where sectors had multiple levels of responsibilities
- This survey doesn't allow me to "check all that apply." All I can do is check one box per group.
- This function doesn't work. I can't check all that apply
- Multiple responsibilities for each agency

Tulsa's Resilience in Regard to Specific Events

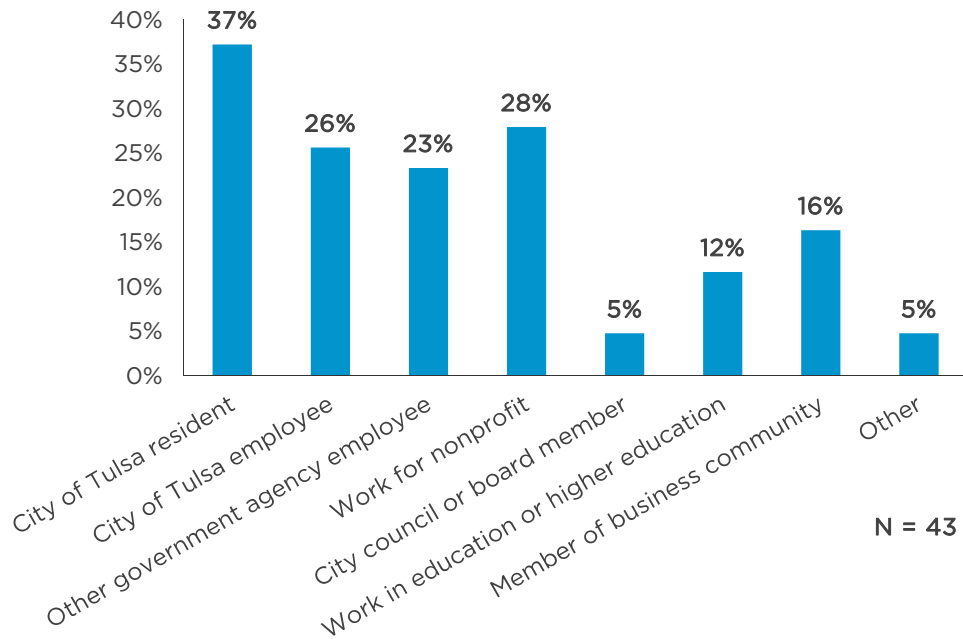
Q7. How prepared was Tulsa for winter 2007-2008 ice storms? (Please pick one)



Q8. How prepared is Tulsa for a similar event today? (Please pick one)



Q9. How would you identify yourself? (Please check all that apply).



Other:

- Outreach director for religious diversity
- Tribal Government
- School Board member
- AIA LEED Architect

Q10. Any additional comments?²²
Open-Ended Response

Suggestions

- Question 6 was very frustrating, because it did not allow to check all that apply per sector, and the single choice option was inadequate. Also, I would have expected the shocks and stresses to not be placed on the same prioritization list, but separately.
- You should have N/A. I didn't live here during the ice storms. Poorly constructed survey.

Comments

- It is great to see a leading Oklahoma community like Tulsa involved in resilience and sustainability planning!
- In order to be a truly resilient city, Tulsa needs to ensure that every resident of the city – especially those with the fewest means and least connections – are integrated into the fabric of the community. Resilience means not leaving anyone, any neighborhood, or any community out.
- This new program holds great promise. Thank you, Rockefellers.
- Looking forward to helping Tulsa and the surrounding communities get stronger and more prepared for future events.
- Poor coordination among city/county governmental departments and agencies.
- I'm very excited for Tulsa to have this opportunity! Tulsa has a lot of talented, passionate people who genuinely care about working together to strengthen our reserves and to help our neighbors.

²² The HR&A Team has not analyzed Q10 comments and recommends additional review by the City.

Appendix I: Final Produced Materials

Attendee Roster

Resilient Tulsa Agenda-Setting Workshop

ROSTER OF PARTICIPANTS

FACILITATORS

Graham Brannin
Director
Metropolitan Environmental
Trust

Laura Hendrix
Neighborhood Liaison
Working in Neighborhoods
Department
City of Tulsa

Molly Jones, AIA
Principal
Jones Design Studio

Mary Kell
Architectural Project Manager
Engineering Services
Department
City of Tulsa

Penny Macias
Project Manager
Maximizing & Advancing
Performance Office
City of Tulsa

Matt Newman
Director, Business Management
Covanta

Bob Roberts
Emergency Manager
Tulsa Public Schools

Theron Warlick
Planner III
Planning Division, Planning &
Development Department
City of Tulsa

Corey Williams
Executive Director
Sustainable Tulsa

PARTICIPANTS

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Chief Deputy
Purchasing Department
Tulsa County

Thaddaeus T. Babb
Administrative Programs Officer,
Corporate Relations Unit
Oklahoma Department of
Rehabilitation Services

Terry Ball
Director
Streets & Stormwater
Department
City of Tulsa

Clay Bird
Executive Director
Economic Development, Tulsa
Development Authority
City of Tulsa

Eileen Bradshaw
Executive Director
Community Food Bank of
Eastern Oklahoma

Shelley Cadamy
Executive Director
Workforce Tulsa

Cindi Carlock
Regional Property Supervisor
Case & Associates Properties,
Inc.

Bill Cartwright
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Metropolitan Tulsa Transit
Authority
City of Tulsa

Scott Clark
Deputy Chief
Fire Department
City of Tulsa

Terrie Correll
Chief Executive Officer
Tulsa Zoo

Forrest Cox
Government Relations &
Economic Development Specialist
Cherokee Nation Businesses

Jayne Cox
Chief Executive Officer &
President
Oklahoma Center for
Community & Justice

Mike Craddock
Vice President, Hospitality Specialist
First Commercial Real Estate Services Corporation

Jeannie Cue
City Councilor
District 2
City of Tulsa

Drew Diamond
Executive Director
Jewish Federation of Tulsa

Kathy Dodd
Associate Superintendent
Union Public Schools

Mike Dodson
Senior Program Officer
Tulsa Community Foundation

Clayton Edwards
Director
Water & Sewer Department
City of Tulsa

Clayton Edwards
Director
Water & Sewer Department
City of Tulsa

Dr. Judith Finn
Chair
Stormwater Drainage Hazard Mitigation Advisory Board
City of Tulsa

Melody Garner
Senior Vice President, Housing Operations
Tulsa Housing Authority
City of Tulsa

Katie Gill Miller
Director, Health & Wellness
YWCA Tulsa

Mark Hogan
Director
Asset Management Department
City of Tulsa

Christy Huff
Director, Immigrant & Refugee Programs
YWCA Tulsa

Roger Jolliff
Executive Director
Tulsa Area Emergency Management Authority
City of Tulsa

Kent Keith
Vice President, Construction Services
Tulsa Housing Authority
City of Tulsa

Tracy Kennedy
Executive Director, Communications, Community Engagement, & Planning
Oklahoma Climatological Survey
University of Oklahoma

Todd Kilpatrick
Commissioner
Levee District 12
Tulsa County

Todd Klabenes
Director, Family Services
Tulsa Habitat for Humanity

Jackson Landrum
Director
Mayor's Office for Human Rights
City of Tulsa

Tim Lovell
Executive Director
Tulsa Partners, Inc.

Kim Macleod
Director
Communications Department
City of Tulsa

Justin McLaughlin
Foundation President & Vice President, Government Affairs
St. John Health System

Susan Neal
Vice President for Public Affairs, Research, & Economic Development
University of Tulsa

Theresa O'Donnell
Chief Planning Officer
City of Dallas

Ann Patton
Principal
Ann Patton Company, LLC

Dr. Jocelyn Lee Payne
Executive Director
John Hope Franklin Center for Reconciliation

Holly Raley
Tulsa Community Foundation

Rachel Riley
Associate Program Manager, Oklahoma Climatological Survey
Oklahoma Climatological Survey
University of Oklahoma

Bill Robison
Lead Engineer & Coordinator, Community Rating System (NFIP)
Floodplain Management, Engineering Services Department
City of Tulsa

Dr. Ed Rossman
Chief, Planning Branch, Planning & Environmental Division
U.S. Army Corps of Engineers

Debbie Ruggles
Metropolitan Tulsa Transit Authority
City of Tulsa

Aliye Shimi
Outreach Director
Islamic Society of Tulsa

Gregory Shinn
Associate Director
Mental Health Association
Oklahoma

Sheryl Siddiqui
Chairperson
Islamic Council of Oklahoma

Jerry Smiley
*Leader, Transit & Environmental
Services Business Unit -
Dallas/Fort Worth*
AECOM

Steve Tiger
*Superintendent & Chief Executive
Officer*
Tulsa Technology Center

Sean Weins
Vice President, Administration
Tulsa Community College

Ricki Wimmer
*Vice President, Educational
Initiatives*
YMCA of Greater Tulsa

Tou Yang
Church of the Good Shepherd
Lutheran

GUEST SPEAKERS

Mayor Dewey F. Bartlett, Jr.
City of Tulsa

Hannibal B. Johnson
Guest Speaker
Author & Independent
Consultant

CITY TEAM

Jarred Brejcha
Chief of Staff
Mayor's Office
City of Tulsa

Brett Fidler
Director
Energy & Enterprise
Development, Office of
Economic Development
City of Tulsa

100 RESILIENT CITIES

Mari Haraldsson
Associate, City Relationships
100 Resilient Cities

Andrew Salkin
Chief Operating Officer
100 Resilient Cities

Olivia Stinson
*Associate Director for City
Relationships*
100 Resilient Cities

PLATFORM PARTNERS

Michael Birkes
*2016 President, AIA Eastern
Oklahoma*
American Institute of Architects

Denise Williams
*Brownfields Project Officer,
Region 6*
U.S. Environmental Protection
Agency




STRATEGY PARTNER

Jee Mee Kim
Principal
HR&A Advisors

Kaye Matheny
Principal
HR&A Advisors

Christina PioCosta-Lahue
Senior Analyst
HR&A Advisors

100RC Platform Partners Overview

Partner	Description	Sectors
	<p>American Institute of Architects helps cities improve the resilience of their built environments through design and construction services, engagement, outreach, education, and professional development, including providing CROs access to AIA member architects.</p>	<p>Built Environment; Land Use</p>
	<p>Amec Foster Wheeler provides cities with technical assistance and expertise around managing their critical assets and preparation for climate change, taking an initiative of a city resilience strategy and putting it into a tactical action plan to drive effective implementation.</p>	<p>Climate and Weather; Communication; DRM and Emergency Response; Finance and Insurance; Information and Technology; Infrastructure; Risk Modeling; Water Management</p>
	<p>The U.S. Environmental Protection Agency provides cities with a suite of tools and services to help cities address issues that relate to green infrastructure, air quality, public health, and climate-related risks.</p>	<p>Built Environment; Government and Policy; Infrastructure; Land Use; Natural Environment; Public health; Water Management;</p>

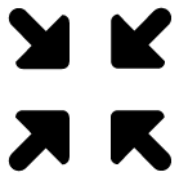
The 100RC Platform Catalog is currently composed of **over 55 partners** offering **over 75 resilience-building tools and services** for a total value of over \$100 million.

What is the 100RC Platform?

100 Resilient Cities provides member cities with access to a suite of resilience-building tools and services supplied by a carefully selected platform of partners from the **private, public, academic, and non-profit sectors** who are donating their efforts to:



Help individual cities access **resilience-building tools and services, leveraging resources** beyond Rockefeller's core investment.



Facilitate the growth of a **marketplace for resilience tools**. Once Platform Partners better understand what cities need, they can build new tools and improve old ones – resilience building tools that will be available to all cities.

Speaker Bios

Resilient Tulsa Agenda-Setting Workshop

SPEAKER BIOS



Mayor Dewey F. Bartlett, Jr., is the 39th Mayor of the City of Tulsa and won reelection in November 2013. Since 1994 Bartlett has also served as President of Keener Oil & Gas Company and brings over 30 years of management experience. The son of an oilman, Oklahoma Governor, and U.S. Senator, Bartlett is committed to continuing his family's legacy of integrity and conservative values, as well as promoting public safety, economic development, fiscal responsibility, sustainability, and quality of life in Tulsa. Among his priority objectives, the Mayor seeks to promote economic development through job retention and growth; efficiency and effectiveness of local government; quality housing and neighborhood improvements; public safety and justice; and innovative approaches to energy usage and conservation. Bartlett's utmost priority is maintaining an open, accountable, transparent, and respectful government. The Mayor pursues principles and strategies encouraging flexibility, creativity, and progress; continual assessment of objectives and achievements in relation to Tulsa's values; and open lines of communication and inspiration. In his first term Bartlett helped create 9,000 jobs, and he continues to promote workforce development in the City's manufacturing, energy, and technology industries. Mayor Bartlett has prioritized increased police and fire personnel, safe streets and crime prevention, natural energy usage, and municipal savings. Formerly Bartlett served as Chairman of the American Red Cross Tulsa Chapter and National Chairman of the National Stripper Wells Association. Bartlett graduated from Southern Methodist University with a Master's Degree in Business Administration in Finance.



Jarred Brejcha has served as Chief of Staff to the Mayor of Tulsa since 2011 and contributes to mayoral administration, policy development, budgeting, and public relations. Brejcha managed Mayor Bartlett's successful 2009 campaign and served as the Mayor's Director of Intergovernmental and Enterprise Development before transitioning to Chief of Staff in 2011. Brejcha worked on the 2010 campaign for President Pro Tempore Brian Bingman before becoming Communications Director and Leadership Assistant. Earlier Brejcha served as Executive Director of the Oklahoma State Republican Senatorial Committee, for which he contributed to developing policy and messaging. Brejcha was an independent political consultant and contributed to numerous other campaigns, including those of Tulsa County's 4-to-Fix the County, State Representative Fred Jordan, and U.S. Senator Jim Inhofe. Prior to his professional involvement in Oklahoma campaigns, bi-partisan initiatives, and elected offices at local, state, and federal levels, Brejcha was a construction manager for the residential and commercial development company Caprock Homes, LLC. Brejcha graduated from the University of Tulsa with Bachelor's Degrees in Political Science and Economics and received a Master of Business Administration from Oklahoma State University.



Brett Fidler is Director of Energy and Enterprise Development in Tulsa’s Office of Economic Development and works with USEPA brownfields program grants; Tulsa’s energy management and efficiency program; and CNG enterprise development. Fidler is a Mayoral appointee to and Chair of the U.S. HUD Community Development Committee; Mayoral appointee to the Metropolitan Environmental Trust; and City liaison to organizations involved in education, workforce development, and entrepreneurship in Tulsa. Fidler’s March 2010 directorship began in tandem with a new municipal Sustainability Department charged with managing a \$3.8-million Energy Efficiency Conservation Block Grant that Fidler helped to secure from the U.S. Department of Energy. Fidler worked with URS Corp. to draft Tulsa’s long-term Sustainability and Energy Conservation Plan. Completed in October 2011 and commended by the American Council of Engineering Companies of Texas, the Plan has elevated the city to become a national leader in clean energy and sustainability strategies for economic development. Previously Fidler served as Special Advisor for Sustainability to Mayor Kathy Taylor and managed an innovative conservation program as Director of Conservation and Research/Living Museum Curator at the Tulsa Zoo and Living Museum. Fidler is a member of Tulsa Partners’ Millennium Center Steering Committee and graduated from Oklahoma State University with Bachelor’s and Masters of Science Degrees in Zoology and Environmental Science, respectively.



Hannibal B. Johnson is an attorney, author, independent consultant, and former adjunct professor at the University of Tulsa College of Law, Oklahoma State University, and the University of Oklahoma. Johnson is an acclaimed novelist of *Black Wall Street: From Riot to Renaissance in Tulsa’s Historic Greenwood District*; *Up From the Ashes: A Story About Community*; *Acre of Aspiration: The All-Black Towns in Oklahoma*; *Mama Used To Say: Wit & Wisdom From The Heart & Soul*; *No Place Like Home: A Story About an All-Black, All-American Town*; and *IncogNegro: Poetic Reflections on Race and Diversity in America*; playwright of *Big Mama Speaks: A Tulsa Race Riot Survivor’s Story*, performed by several prominent cultural institutions; and contributor to the *Encyclopedia of African American History*. Johnson has served as President of Leadership Tulsa, the Metropolitan Tulsa Urban League, and the Northeast Oklahoma Black Lawyers Association; Chairman of the Board of Directors of The Community Leadership Association and Oklahoma Department of Libraries; Co-Founder and Director of the Oklahoma Appleseed Center for Law and Justice; former Director of Camp Anytown, Oklahoma for teens; and a Rotary Club of Tulsa member. Johnson has received numerous public service, human rights, leadership, and literary awards. He graduated from Harvard Law School after receiving Bachelor’s Degrees in economics and sociology from the University of Arkansas.



Andrew Salkin is Chief Operating Officer (COO) for 100 Resilient Cities and joined after serving as Deputy Commissioner of Operations from New York City's Department of Finance. In this role Salkin managed more than 800 people and oversaw collection of \$30 billion annually through real estate, business, and excise taxes, as well as parking summonses. Salkin improved City efficiencies and customer service, including introducing web-based payment options. Previously as First Deputy Commissioner of the Taxi and Limousine Commission, he directed daily operations and regulations of the City's medallion taxi fleet: 50K vehicles and 100K drivers among livery vehicles, commuter vans, and paratransit vehicles. Notably, Salkin equipped taxis with credit card payment machines and the City's Taxi of Tomorrow competition. During the 2005 transit strike, Salkin developed and oversaw implementation of the Transit Strike Plan allowing for an additional 1.5M taxi rides a day. Within the Department of Transportation, Salkin served as Lower Manhattan Borough Commissioner, the "Downtown Construction Czar," and led City efforts to balance needs of Lower Manhattan's residents, employees, and tourists amidst the clean-up, construction, and rebuilding post-September 11.



Olivia Stinson is an Associate Director for City Relationships at 100 Resilient Cities (100RC) and manages a portfolio of North American cities. As Associate Director, Stinson is a liaison to 100RC member city governments and shares resources to develop and implement innovative resilience strategies. Before joining 100RC, Olivia was a Recovery Specialist for Planning with the Colorado Division of Homeland Security and Emergency Management and worked with jurisdictions recovering from 2013 flooding. In addition to community recovery planning, Stinson helped manage the NRCS Emergency Watershed Protection, FEMA Public Assistance, and CDBG-Disaster Recovery Programs. Among her international work, Stinson was an urban specialist on behalf of the World Bank in Jakarta, Indonesia to aid the city government with urban poverty and climate change strategies. Stinson also worked in post-earthquake Port-au-Prince, Haiti, as a community redevelopment planner with Architecture for Humanity. Stinson's disaster recovery planning involvement began after she moved to New Orleans for rebuilding assistance in the wake of Hurricane Katrina and joined a nonprofit affordable housing developer as a recipient of The Rockefeller Foundation Redevelopment Fellowship. Stinson's interest in pursuing planning emerged thanks to her involvement in efforts to develop Manhattan's elevated linear park, the High Line.



Jee Mee Kim is a Principal in Strategy Partner HR&A Advisors' New York office with over 15 years of experience in project management for public and private clients with a focus on land use approvals, community engagement, transportation planning, and environmental review. Kim managed the New York Rising Community Reconstruction Program planning efforts in Southeast Brooklyn on behalf of the Governor's Office of Storm Recovery to develop strategies supporting long-term resiliency and economic growth for communities impacted by Hurricane Irene, Tropical Storm Lee, and Superstorm Sandy. Currently Kim is working in Boulder, Colorado and providing technical support as part of The Rockefeller Foundation's 100 Resilient Cities initiative.

- ⁱ <https://www.cityoftulsa.org/our-city/about-tulsa/city-service-information-and-statistics.aspx>
- ⁱⁱ <http://www.census.gov/2010census/popmap/>
- ⁱⁱⁱ U.S. Census Bureau, "U.S. Census Bureau Delivers Oklahoma's 2010 Census Population Totals, Including First Look at Race and Hispanic Origin Data for Legislative Redistricting." 15 Feb 2011 https://www.census.gov/newsroom/releases/archives/2010_census/cb11-cn33.html
- ^{iv} Oklahoma Department of Commerce, "Tulsa Metro Ecosystem Report," July 14, p. 1. http://okcommerce.gov/assets/files/data-and-research/workforce-data/ecosystem-profiles/Ecosystem_Profile_Tulsa_Metro.pdf
- ^v 1989 Amended Charter, https://library.municode.com/HTML/14783/level2/TUCOOR_1989AMCH.html#TOPTITLE
- ^{vi} Tulsa Preservation Commission, "Tulsa History: Overview," <http://tulsapreservationcommission.org/tulsa-history/>; "Tulsa History: Native American" <http://tulsapreservationcommission.org/tulsa-history/native-american/>
- ^{vii} <https://www.cityoftulsa.org/our-city/economic-development/leading-industries.aspx>
- ^{viii} <https://www.cityoftulsa.org/our-city/economic-development/leading-industries.aspx>; discussion with City of Tulsa; 2015 Largest Employers List
- ^{ix} http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_B02005&prodType=table
- ^x http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_PCT5&prodType=table
- ^{xi} http://www.tulsaworld.com/news/education/jenks-public-schools-works-to-accommodate-burmese-population-in-south/article_a761fa91-b027-5b7b-be25-ccc9156d0504.html; http://www.tulsaworld.com/news/religion/myanmar-religion-connection-thousands-of-zomi-people-moving-to-tulsa-from/article_68d5eae9-fe4f-5636-8187-d214ddd52951.html
- ^{xii} <http://tulsapreservationcommission.org/tulsa-history/african-americans/>
- ^{xiii} <http://www.forbes.com/pictures/lm45eeklm/no-1-tulsa-okla/>; <http://www.kiplinger.com/slideshow/real-estate/T006-S001-most-affordable-big-cities-in-the-us/index.html>; <http://www.kiplinger.com/slideshow/real-estate/T006-S001-affordable-big-cities-for-renters/index.html>
- ^{xiv} <http://downtowntulsaok.com/pages/about/planned-investment-reports/>; <https://www.cityoftulsa.org/our-city/economic-development/demographics-and-statistics.aspx>
- ^{xv} <https://www.nerdwallet.com/blog/cities/lifestyle/best-cities-quality-of-life-full-ranking/>
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- ^{xvii} U.S. Census Bureau. "Oklahoma: 2010: Population and Housing Unit Counts, 2010 Census of Population and Housing Issued September 2012." <https://www.census.gov/prod/cen2010/cph-2-38.pdf>
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