



## MEMORANDUM

**TO:** Mayor and Council

**THRU:** Chris Shorter, Assistant City Manager

**FROM:** Lucia Athens, Chief Sustainability Officer

**DATE:** August 26, 2019

**SUBJECT:** **Response to Climate Resilience Resolution 20190509-019**

### Background

On May 9, 2019, City Council passed Resolution 20190509-019, which directed the Office of Sustainability to 1) perform a literature review of climate resilience plans of peer cities, 2) explore available, potential partnerships and funding options for resilience planning, and 3) provide recommendations for creating a comprehensive, community-wide climate resilience plan that is fair, just, and equitable, including recommendations for funding a Chief Resilience Officer. The Resolution clearly identified resilience to climate change and extreme weather impacts as the focus of the desired response.

### Staff Response

The Office of Sustainability reviewed climate resilience plans for Dallas, San Antonio, Boston, Indianapolis, Denver, and Washington, DC. We selected these cities based on the following criteria:

1. Cities having a population size similar to Austin (between 600,000 and 1.5 million residents)
2. Cities selected to participate in the 100 Resilient Cities program
3. Cities having plans identified as exemplary according to the Urban Sustainability Directors Network
4. Cities in Texas
5. Cities not directly impacted by sea-level rise with risks similar to Austin

A summary of best practices and lessons learned from these plans is provided in Appendix A of this document. While the 100 Resilient Cities program has dissolved and is no longer available as a funding source, the Office of Sustainability is continuing to research external funding opportunities to fund a Chief Resilience Officer position. A list of potential funding partners is provided in Appendix B.

Much work to increase resilience has been underway across multiple City Departments for some time. The Office of Sustainability has worked with Homeland Security and Emergency Management, Austin Public Health, the Austin Fire Department, the Economic Development Department, and the Equity Office,

among others, to build on plans to enhance emergency preparedness and resident safety. These efforts have focused on specific threats – flooding, drought, extreme heat, and wildfires – as well as the populations most vulnerable to these specific threats. Many additional opportunities exist for city staff and the community to work together to comprehensively address extreme weather impacts and increase Austin’s climate resilience.

Staff is asking for an extension to October 31, 2019 to provide additional recommendations for creating a comprehensive, community-wide climate resilience plan that is fair, just, and equitable. In the meantime, a summary of initial Phase 1 recommendations is provided via this memo.

<b>Summary of Phase One Recommended Community-Wide Climate Resilience Actions</b>				
<b>Recommendation</b>	<b>Lead Department</b>	<b>Staffing / Budget Impact</b>	<b>Timeframe</b>	<b>Potential Funding Partners / Collaborators</b>
<b>1) Hire a Chief Climate Resilience Officer</b>	Human Resources with Office of Sustainability and/or Homeland Security Emergency Management	New Executive-level position \$100-\$150K base salary (\$140-\$203K with benefits)  <b>OR</b>  Reclassify existing vacant position for mid-management level Climate Resiliency Manager Cost impact TBD	Once budget identified, 6 months for recruitment and hiring  <b>OR</b>  3 months for Reclass and hiring process	The Rockefeller Foundation funded Chief Resilience Officers during a three year grant period, but that funding is no longer available. Staff is continuing to search for other potential external funding partners.
<b>2) Gap analysis of existing plans, programs and policies</b>	Office of Sustainability with multiple departments	None (to be completed with existing staff / budget resources)	6-8 months	
<b>3) GIS mapping to identify most vulnerable locations and populations</b>	Office of Sustainability, CTM, Homeland Security, and Public Health	None (to be completed with existing staff / budget resources)	6-8 months	

### **Phase One Recommendation Resource Impact Summary**

**TOTAL STAFF IMPACTS:** **1 new FTE –OR- reclass of existing vacant position**

**TOTAL ANNUAL BUDGET IMPACTS:** **\$50,000 - \$203,000**

# Blueprint for a Community-wide Climate Resilience Plan

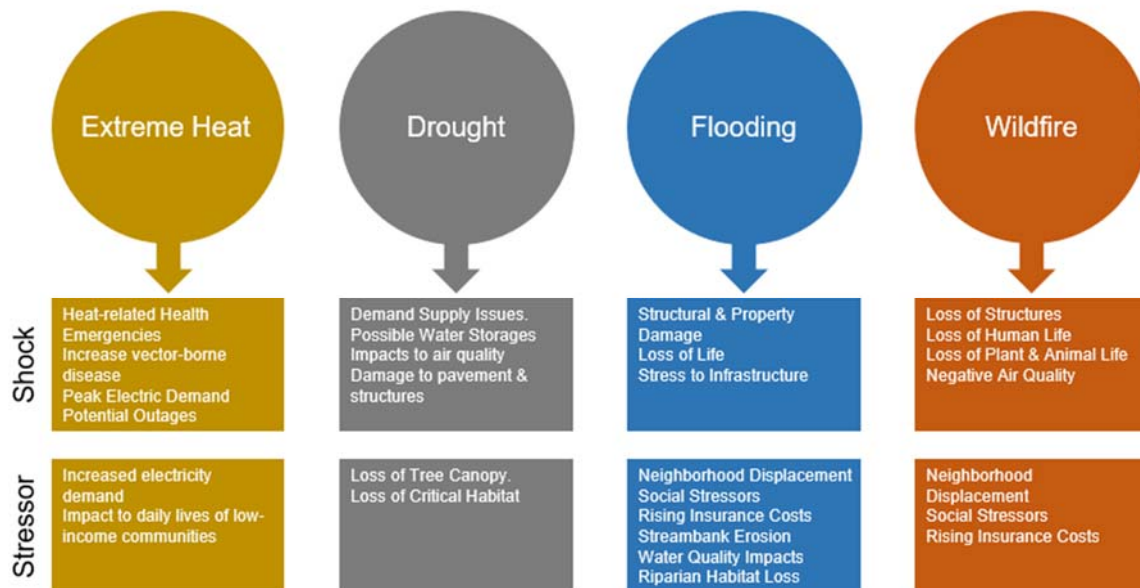
## Defining Resilience

Following the framework and vision of Austin’s Strategic Direction 2023, we are using the following definition for climate resilience:

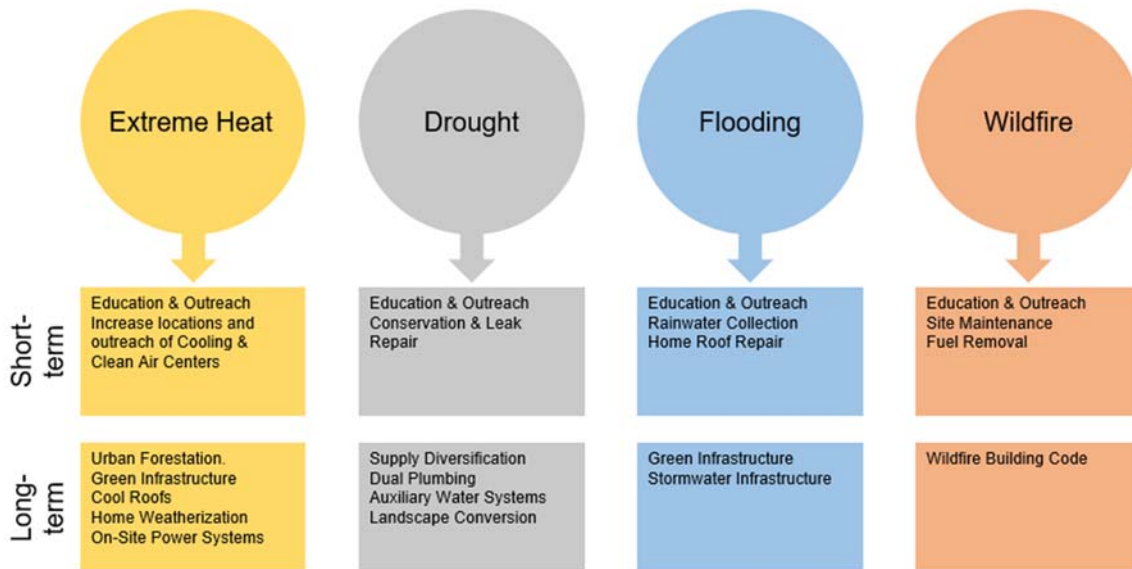
*Climate resiliency is the capacity of individuals, communities, institutions, and businesses systems to survive, adapt, and grow in a changing climate.*

## Climate Impacts

In the past decade, Austin has experienced climate change in the form of record-breaking heat, droughts, historic floods, and devastating wildfires that have taken lives, displaced citizens, and stressed infrastructure. Shocks and stressor associated with each of these threats are summarized below:



In 2014, the Office of Sustainability hired ATMOS Research, led by Dr. Katharine Hayhoe of Texas Tech University, to develop climate projections through 2100 for Central Texas. These projections have been utilized for various mapping efforts to assess vulnerability and plan for climate-related impacts. In addition, Austin Water Utility had Dr. Hayhoe perform additional projections including stream flow modeling to inform the creation of the Water Forward Plan. City planning efforts to increase climate resilience have included the following short and long-term topic areas aligned with each extreme weather risk:



In 2018, a *Climate Resilience Action Plan for City of Austin Assets and Operations* was prepared with collaborative input from multiple City departments. Based on strategies identified in the action plan, efforts are underway to strengthen emergency response, expand City staff safety plans, evaluate and upgrade existing facilities and infrastructure, and future-proof new facilities and infrastructure to climate threats.

The following Phase One recommendations build on the previous planning efforts above. Emphasis will be placed on defining vulnerable populations in Austin who are likely to be impacted first, suffer the most negative consequences, and have the hardest time bouncing back from extreme weather events.

**1. Hire a Chief Climate Resilience Officer to lead community-wide climate resilience planning and strategy implementation, coordinate interdepartmental efforts, and serve as the primary point of contact for community outreach and engagement.**

**Recommendation**

Based on our review of the role of a Chief Resilience Officer in other cities, this position provides executive-level leadership and coordinates interdepartmental resiliency efforts. A Chief Climate Resilience Officer for Austin could lead efforts to establish a community-wide climate resilience plan for Austin and implement strategic initiatives from the plan. This would include collaboration with City departments to align activities and identify synergies for efficient resource utilization, as well as providing regular updates to community groups on implementation progress. In general, candidates for an executive-level Chief Resilience Officer role would have leadership experience in public administration, project management, and policy development and analysis. The ideal candidate for Chief Climate Resilience Officer would be uniquely qualified to address Austin's specific risks, threats, and challenges: flooding, drought, extreme heat, and wildfire. Ideal candidates for Austin would also offer extensive experience in addressing long-term stressors like equity and socio-economic development.

A second lower-cost option exists to fulfill desired Council objectives. In this scenario, an existing vacant position could be identified and re-classified to serve as a citywide Climate Resilience Manager, a mid-management level position similar to the Climate Program Manager position currently located in the Office of Sustainability. This option may be more desirable from the standpoint of a lower salary plus overhead cost for the position, as well as the opportunity to achieve economies of scale by locating the position within an existing Department or Office that already includes administrative support.

### **Budget Impact**

According to the 100 Resilient Cities network and job postings from Minneapolis, MN and Santa Monica, CA, the base salary range for a Chief Resilience Officer is estimated to be \$100,000 - \$150,000, or \$140,000 - \$203,000 with benefits.

For the second option of a Climate Resilience Manager, a vacant position has not yet been identified for re-classification. Further work could be undertaken to identify a vacant position, develop an appropriate new job description, conduct a position re-class process, analyze the funding shortfall, and attempt to identify existing internal or external resources that might be utilized to fund the position.

### **Potential Partnerships**

No funding partnerships were identified. The Rockefeller Foundation's 100 Resilient Cities, the most notable organization known for funding Chief Resilience Officers at various municipalities, has now dissolved. Staff will continue to look for internal and external resources to fund such a position.

## **2. Assess existing programs and policies to identify gaps in preparedness.**

### **Recommendation**

Many City and regional efforts are already underway to increase community-wide climate resilience. An assessment of existing plans and policies would promote inter-departmental and inter-agency coordination and ensure an aligned approach to the threats of climate change. The assessment would also identify where planning gaps fail to address community needs. Some of the climate-related emergency preparedness plans to be reviewed include:

- Austin Fire Department: *Austin/Travis County Community Wildfire Protection Plan*
- Austin Public Health: *Community Health Improvement Plan*
- Austin Water: *Water Forward - 100 Year Water Plan* and *Drought Contingency Plan*
- Development Service Department Forestry Division: *Urban Forest Plan*
- Office of Homeland Security and Emergency Management: *Austin Hazard Mitigation Plan*
- Office of Sustainability: *Community Climate Plan* and *Climate Resilience Action Plan for City of Austin Assets and Operations*
- Watershed Protection Department: *Watershed Protection Master Plan* and *Atlas 14 Update*

### **Department Lead**

The Office of Sustainability can complete this assessment in 6-8 months with existing staff. The work would involve coordination with staff from the Austin Fire Department, Austin Energy, Homeland Security and Emergency Management, Austin Public Health, Austin Water, and Watershed Protection.

### **Budget Impact**

There is no anticipated budget impact for this analysis.

### **3. GIS mapping to identify most vulnerable locations and populations.**

#### **Recommendation**

Every community must prepare for and respond to climate hazards, whether a shock event such as flood or wildfire, or stressors such as heatwaves or bad air quality days. A number of factors, including poverty, lack of access to transportation, and housing conditions may weaken a community's ability to prevent human suffering and financial loss in a disaster. Mapping social vulnerability data that includes socioeconomic conditions; household composition; disabilities, race, and ethnicity; languages used; and transportation options would identify the populations at most risk to climate-related threats. This information would be used to inform outreach, engagement, and planning efforts.

#### **Department Lead**

The Office of Sustainability can complete this assessment in 6-8 months with existing staff and a City GIS specialist. The work would involve coordination with staff from the Austin Fire Department, Homeland Security and Emergency Management, Austin Public Health, Austin Water, Economic Development, Planning & Zoning, Neighborhood Housing & Community Development, and Watershed Protection.

#### **Budget Impact**

There is no anticipated budget impact for this analysis.

## Appendix A: Literature Review of Peer City Climate Resilience Plans

City-based climate planning favors a systems-based approach, where the interconnectedness of climate stressors are evaluated in the context of urban issues like equity and aging infrastructure. This approach moves away from silos and embraces a collaborative approach that acknowledges how varying policies and departments should contribute to planning for a resilient future. The strength of a resilience plan is contingent on the following:

- a clear vision for desired future outcomes
- facts-based guidance of community issues and needs
- the development of appropriate strategies to meet identified goals
- incorporation of public participation in decision-making
- collaboration across departments and organization
- a detailed plan for implementation and monitoring

Resilience plans must also address the inherent uncertainty of climate events and their consequences.

While many plans focus on shocks or extreme events like wildfires and floods, identifying long-term stressors and ways to alleviate them is of equal importance for resilience planning. While many residents within a city may experience the same shock, the ability to respond may largely rely on the particular stressors already present that make some populations more vulnerable to climate impacts.

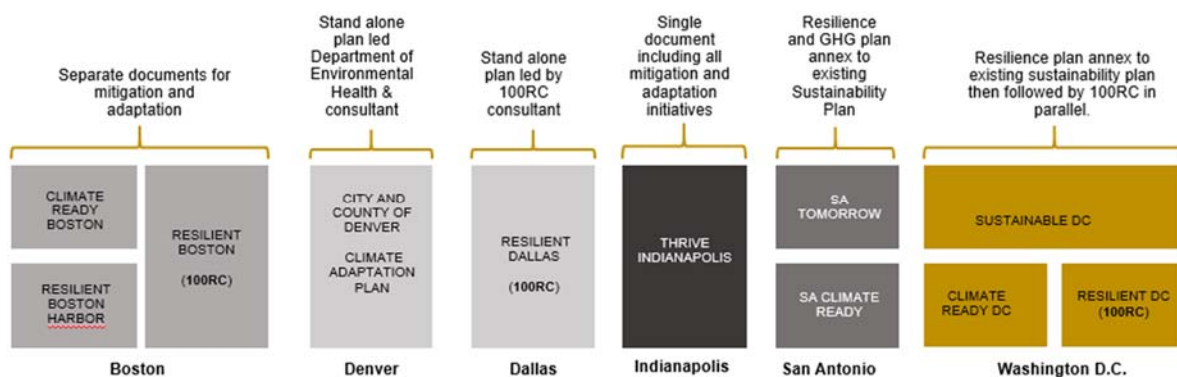
### Case Studies

City plans were chosen for review based on the following criteria:

1. Cities having a population size similar to Austin (between 600,000 and 1.5 million residents)
2. Cities selected to participate in the 100 Resilient Cities program
3. Cities having plans identified as exemplary according to the Urban Sustainability Directors Network
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Based on these criteria, six cities were identified: Dallas, San Antonio, Denver, Boston, Indianapolis, and Washington, DC.

### Plan characteristics



## Interview questions for resilience planning leaders in each city

1. **Process:** Did you hire a consultant to help? Or was it completed mostly in-house? How were goals and actions created? How did you address uncertainty?
2. **Time:** How long did it take to create your Resilience Plan? What is the timeframe of your plan?
3. **Engagement:** About how many stakeholders did you engage? What is the breadth of internal departmental engagement and external community engagement? Did you differentiate between internal and external stakeholder engagement? How did you make it "community wide"?
4. **Equity:** Was equity incorporated as part of your plan?
5. **Funding:** How much did it cost to create the plan? How was the plan funded?
6. **Implementation:** Did you incorporate actions into existing programs? If so, how do you monitor outcomes?

## Interview notes

City	Process	Equity & Engagement Efforts	Funding	Implementation status	CRO in place? Departments involved?
<b>San Antonio</b>	Led by commitment to the Paris Agreement.  Hired a consultant to complete the plan.  Process took almost 2 years.	Created an Equity working group that met quarterly.  Reached 10,000 residents through meetings, surveys and events	\$400K CPS Energy & City budget	Working on defining who is responsible for implementing what within the city.	No Resilience Officer.  Led by Office of Sustainability, which reports directly to the City Manager's office.
<b>Indianapolis</b>	Hired a consultant that brought on about a dozen subconsultants.  Connected resilience plan with Hazard Mitigation Plan update.  Process took about 1 year.	Conducted social vulnerability analysis looking at twelve socioeconomic factors.  Hired community organizers and used Mayor's Youth Empowerment Program to conduct surveying and outreach events.  Reached 25,000 residents via social media engagement and community and neighborhood groups.	\$500K Combo of City dept. budgets, with local foundation & corporate funding.	Some actions underway.	No Resilience Officer  Led by Office of Sustainability, which is part of the Mayor's office.



City	Process	Equity & Engagement Efforts	Funding	Implementation status	CRO in place? Departments involved?
<b>Washington DC</b>	Hired team of consultants to identify projects, conduct vulnerability assessments, and create an action plan.  Process took 2 years to complete.	Conducted a social vulnerability analysis, but did not explicitly address equity in the plan.  Utilized a consultant to create a list of stakeholders, form an advisory group, and release the draft plan for public comment.	\$200K Innovation Grant for Adaptation	Implementation lacks funding, no specific metrics or indicators identified to measure progress.	Resilience Officer in place.  Urban Sustainability Administration within the Department of Energy and Environment
<b>Boston</b>	Released two resilience plans; <u>Resilient Boston</u> (social equity focus) with the support of 100 Resilient Cities, and <u>Resilient Harbor</u> (neighborhood ecological focus) with the help of additional consultants.  The process took about 2 years.	Created the Office of Resilience & Racial Equity focused on low-income, communities of color, children, elderly, low English proficiency, mental/physical disabilities.  Utilized a consultant to create a list of stakeholders and partnered with local community groups to convene open houses for community feedback.	Combo of city budget, state grants, Barr Foundation grant, and corporate funding through the Boston Green Ribbon Commission.	Implementation has begun using FEMA pre-disaster mitigation grant.	Resilience Officer in place.  Led by the Office of Environment, Energy and Open Space with the Office of Resilience and Racial Equity, both of which report to Mayor.
<b>Dallas</b>	100 Resilient Cities acted as consultant, and hired additional firm to help with plan organization.  Process took 2 years.	Integrated resilience planning efforts with the Office of Equity & Human Rights and Fair Housing Office.  Used a community advisory committee.  Worked with neighborhood activists, nonprofits, and chambers of commerce.	\$500K Some funds from Rockefeller Foundation, with the remainder from the general funds budget.	Many strategies from Goal 6 (neighborhood infrastructure) and Goal 7 (environmental sustainability) underway; ongoing transit and equity-based activities.	Resilience Officer in place (dual position with Assistant City Manager).  Led by Office of Resilience.
<b>Denver</b>	Worked with an adaptation nonprofit and hired a consultant to develop and draft the plan.  Process took 1 year.	Worked with community groups to develop health indicators to identify the most vulnerable groups.  Had some community engagement to get feedback on the draft plan.	\$40K-\$60K Funded by Env. Health Department.	Many city operations-based actions been implemented. Now looking to implement more community-focused strategies.	No Resilience Officer.  Led by Dept. of Public Health & Environment, Environmental Quality Division.

## **Lessons Learned**

- Since resilience planning is a complex process, significant resources are required. For many cities, funding is a continuous challenge due to short-term budget cycles and long-term implementation efforts.
- It is important to consider consulting services for technical expertise, community engagement, and reporting.
- Equity and social stressors should be kept front and center during the planning process, and community input should be incorporated throughout. Mapping can illustrate where climate hazards are likely to disproportionately affect communities.
- Because climate change can be politically contentious in certain organizations, using terms like “natural hazards” can be helpful in acquiring buy-in from various stakeholders.
- There are vast opportunities for public and private partnerships that range from workforce development strategies, to building resilience hubs in select facilities.
- For implementation, it is important that strategies are actionable and ensure an equitable distribution of resources. Before implementing strategies, it is important to define metrics for success and have a clear vision for the desired outcome.

## **Appendix B: Funding Considerations and Potential Partners**

### **100 Resilient Cities**

One of the most prominent initiatives to come from the rise of resilience-based planning was the 100 Resilient Cities initiative, which was founded by the Rockefeller Foundation in 2013. The Office of Sustainability applied to participate in the program in 2013, 2014, and 2015, but was not selected. The Rockefeller Foundation discontinued the program as of July 2019.

A midterm report published on December 2018 by the Urban Institute evaluated the effectiveness of 100 Resilient Cities in context of its core goals. In general, the program showed success in contributing to an increase in discussion around resilience, with focused offices, staff, budgets, plans and commitments taking place. However, few changes were seen in evidence-based planning, community participation and consistency with state and national government initiatives. When evaluating equity in the context of vulnerable populations, findings showed that many of the cities sampled in the network did not incorporate demographic data or have explicit recommendations for these communities. A final outcome evaluation report is scheduled to be completed in 2022.

### **Chief Resilience Officer**

The creation of a Chief Resilience Officer (CRO) across urban governments was a primary goal and flagship accomplishment of the 100 Resilient Cities network. The role of the CRO is in many ways dependent on the specific needs of the city. However, a main goal of the position was to help bridge departmental gaps in communication and collaboration. The CRO can identify where synergies can occur, particularly in how multiple resilience strategies can be addressed within a single project. The same collaborative focus is envisioned for community engagement, where the CRO maintains contact with local non-profits, private sector partners, and any pertinent community representatives.

The ideal candidate for this type of position is based on a city's specific challenges and goals. In San Francisco, CRO Patrick Otellini had served as the former Earthquake Safety Director. In the coastal community of Norfolk, VA, Christine Morris' experience with community development projects was instrumental in forming partnerships with local port-based and infrastructure companies for resilience collaboration. As a former Executive Director of the Black Caucus at the State House, Boston current CRO, Lori Nelson, exemplifies the city's commitment to equity as the cornerstone of resilience.

The salary for a Chief Resilience Officer will vary depending on the cost of living and city budget. Reviewing recent job postings from Minneapolis and Santa Monica, the salary range for a Chief Resilience Officer in Austin is estimated to be between \$100,000-\$150,000, plus benefits.

### **Benefit-cost Considerations**

The *Natural Hazard Mitigation 2018 Interim Report* from the National Institute of Building Sciences provides evidence that investing in hazard mitigation before disasters bears a benefit-cost ratio of 4:1 when projects exceed select requirements from the 2015 International Residential Code (IRC) and the International Building Code (IBC). The benefit-cost ratio is significantly more favorable when adopting the 2018 IRC & IBC code, at 11:1. In short, investment in building quality upfront means that less will be paid in the aftermath of a disaster.

## Potential Funding Partners

There are limited grants available for pre-disaster projects, and many funding opportunities do not cover costs for planning or new positions. However, various City departments, local and national non-profits, and federal agencies offer funding to cover adaptation, preparedness, and capacity-building projects, as well as disaster relief. The list of potential funding below is meant to serve as an overview of opportunities available and may not be fully inclusive. None of this potential funding has been secured, and depending on grant award cycles, may not be available in a timely manner for planning purposes or program implementation.

- **City Departments:**
  - Office of Homeland Security and Emergency Management, Community Preparedness
  - Austin Public Health, Neighborhood Social Services
- **Local non-profits:**
  - St. David's Foundation
  - Michael & Susan Dell Foundation
  - Austin Community Foundation
  - The Cynthia & George Mitchell Foundation, Clean Energy Program
  - University of Texas Austin, Planet Texas 2050
- **National non-profits:**
  - The Kresge Foundation, Environment and/or American Cities Program
  - Urban Sustainability Directors Network, Funders' Network - Partners for Places Program
  - MacArthur Foundation, Climate Solutions Grant
  - National Fish and Wildlife Foundation, Resilient Communities Program
  - National League of Cities, Leadership in Community Resilience
  - Institute for Sustainable Communities, Partnership for Resilient Communities
  - The Rockefeller Foundation, Adrienne Arsht-Rockefeller Foundation Resilience Center
  - Robert Wood Johnson Foundation, Healthy Communities Program
  - Bloomberg Philanthropies, Environment and/or Public Health Program
  - Green Latinos, Climate Related Flooding Community Grants
- **Federal Agencies:**
  - Federal Emergency Management Agency
    - Preparedness Grant Program, Transit Security and Emergency Management Performance Grant Programs
    - Pre-Disaster Mitigation Grant Program
    - Flood Mitigation Assistance Program
    - Hazard Mitigation Grant Program
  - Environmental Protection Agency, Environmental Justice and Smart Growth Grants Programs
  - Housing and Urban Development, Community Block Development Grant
  - National Science Foundation, Critical Resilient Interdependent Infrastructure Systems and Processes
  - Department of Energy, Advanced Systems Integration for Solar Technologies: Situational Awareness and Resilient Solutions for Critical Infrastructure
  - Department of Transportation - Federal Highway Administration, Emergency Relief Program