



## MEMORANDUM

**TO:** Mayor and Council

**THRU:** Stephanie Hayden-Howard, Assistant City Manager

**FROM:** Lucia Athens, Chief Sustainability Officer  
Zach Baumer, Climate Program Manager

**DATE:** August 11, 2021

**SUBJECT:** **Response to Climate Resilience Resolution 20210408-028**

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### Background

On April 8, 2021, City Council passed [Resolution 20210408-028](#), which directs the City Manager to engage with the Office of Sustainability and other relevant City departments, school districts, and external partners to 1) create a plan, budget recommendations, funding strategies, and a timeline for designing and equipping an initial six pilot hubs for disasters, including the necessary power and water redundancies, and 2) budget recommendations, funding strategies, and a timeline for creating a community-wide resilience hub plan sufficient to serve all Austinites during emergencies.

### Work To-Date on Resilience Hubs

Office of Sustainability staff worked with over 30 individuals from 18 City departments and several external partners, including Central Health, AISD, Travis County, and Central Texas Food Bank, to explore what it would take to deliver on the resolution's intent. Additionally, staff sought feedback from community members who are active in this space, including community leaders from the Colony Park neighborhood, the Reimagining Public Safety Task Force, and Go Austin/Vamos Austin (GAVA).

The team developed initial cost estimates based on several "test cases" based on analysis of potential opportunity sites for Resilience Hubs. These were a mix of City and non-City owned facilities, existing facilities that could be retrofitted, and new facilities currently being planned. The test cases were chosen for a variety of reasons, including some already in the works. Before the most recent resolution, the Office of Sustainability had been in conversation with Central Health about adding resilience-related upgrades to their proposed facilities in the Eastern Crescent. In addition, resilience-related analysis was previously completed by the Parks and Recreation Department, focused on their facilities.

This approach allowed staff to understand the potential costs associated with pilot hubs while leaving room for further analysis and community engagement. As staff continues these conversations, additional opportunities continue to unfold, including potential AISD school locations and the planned City Northeast Service Center (Austin Resource Recovery and Fleet). **Before Resilience Hub initial pilot sites are recommended, additional analysis and discussions with partners need to be completed.**

## Overview of Costs and Resources to Implement Resilience Hubs

### 1) Estimated Cost Per Pilot Resilience Hub

**\$1.2M** in one-time costs to deliver each pilot Resilience Hub. The estimate includes costs for additional technology (solar, battery backup, etc.), community engagement, and funding to pilot emerging technologies. This does not include costs related to managing, operating, staffing, programming, or emergency activation of the facilities.

### 2) Community-wide Resilience Hub Plan

**\$350,000** in one-time costs for community engagement, planning consulting contract, and additional data gathering to create a community-wide plan. A significant portion of the anticipated planning costs is intended to go towards hosting inclusive engagement events and engagement with community organizers or organizations to work alongside City staff throughout the process.

## Progress Update on Other Resilience-Related Projects and Initiatives

In addition to the Resilience Hub initiative, multiple other efforts are underway to address climate resilience. The following projects were identified as part of the [Resilience Plan for City Assets and Operations](#) (April 2018) or within the response to Council Resolution 20190509-019 ([memo to Mayor and Council dated March 9, 2020](#)). These items are included in the City of Austin 2021-22 [proposed budget highlights on City of Austin Resiliency](#).

### Adapting to a Changing Climate

- \$12.8 million for the Austin Fire Department's wildfire prevention program, including \$100,000 to update emergency evacuation routes and procedures for communities prone to wildfire events and other natural disasters
- \$298.2 million in planned capital spending over five years, in addition to a \$20.7 million operating budget, within the Watershed Protection Department dedicated to developing and implementing flood control solutions and reducing flood hazards
- \$2.6 million budget for the Office of Homeland Security and Emergency Management, including funding of \$550,000 for a one-time emergency preparedness public awareness campaign, staff evacuations plan, and a post-COVID citywide after-action report

### Addressing Chronic Societal and Institutional Inequities

- \$250,000 to evaluate the capacity for the regional food supply chain to respond to potential disruptions or disasters

### **Strengthening Critical Infrastructure**

- \$348.6 million in Austin Water's five-year planned capital spending for projects that will improve resiliency in the delivery and treatment of water, addressing the impacts of aging infrastructure, extreme weather events, and a growing population
- \$8.3 million in capital investments to address mission-critical infrastructure and deferred facility maintenance, including important City resources sites such as health and recreational facilities
- \$24.4 million within the Watershed Protection Department's operating budget is for stormwater infrastructure and waterway maintenance
- \$22.8 million within Austin Energy to support vegetation management near electric lines, reducing the risk of wildfire and downed limbs during severe storms, ensuring electrical equipment has the space it needs to operate reliably and safely

### **Immediately Available Resources and Next Steps**

As part of the Council-approved **American Rescue Plan (ARP) funding framework, \$3 million was allocated to Resilience Hubs**. This investment will allow staff to advance the work completed thus far to the next stage.

**The \$3 million is estimated to be sufficient** for staff to plan, design, and build features needed to provide at least two initial Resilience Hub pilot projects within the next 18-24 months, in addition to creating a community-wide Resilience Hub Plan. While this is less than the six pilot Resilience Hubs initially requested via the Council Resolution, **staff feels that the initial pilot project stage should focus on a smaller number of projects to gather lessons learned from a limited number of scenarios and manage a realistic project delivery workload.**

Productive conversations are underway with AISD, which has indicated a strong commitment to creating Resilience Hubs at AISD facilities and the opportunity to explore cost-sharing for both Hubs and consulting costs for the Resilience Hub Plan. The pilots and planning process will provide critical information to AISD to prepare a plan for a future bond.

Once several initial Resilience Hub pilots are completed, and a plan has been delivered, more information will become available regarding additional funding needs for AISD, the City of Austin, and other partners. At the same time, additional resources and partners will continue to be sought. Staff will continue working diligently with internal and external partners to determine the best near-term opportunities to deliver two Resilience Hubs.

Criteria for selecting Resilience Hub test cases were developed in collaboration with City Departments, AISD, and Central Health. The criteria thus far are listed below. Additional criteria such as "15-minute walkshed access" will be added and utilized as the foundation for proposing hub sites to receive the identified funding allocation. A detailed proposal, including proposed pilot sites and a spending plan, will be presented in the coming months.

#### **"Test Case" Resilience Hub Site Selection Criteria**

- Willing and ready partner
- Near-term implementation opportunity
- Physical elements/ability to be a Resilience Hub
- Serves areas noted in the Reimagining Public Safety Report
- Structure not exposed to flood, wildfire
- Ability to provide community gathering space

## Proposed ARP Funding Allocation Overview\*

(\$3 Million allocated to Resilience Hubs as part of the Council-approved ARP funding framework)

<b>Pilot Resilience Hub #1</b>	<b>\$1,200,000</b>
<b>Pilot Resilience Hub #2</b>	<b>\$1,200,000</b>
<b>Community-wide Resilience Hub Plan</b>	<b>\$ 350,000</b>
<b>Administrative Costs and Temporary Staffing</b>	<b><u>\$ 250,000</u></b>
<b>TOTAL</b>	<b>\$3,000,000</b>

*\*Some of the City-covered portion of the costs noted above could decrease through cost-sharing with City Departments such as Austin Water Utility for water resiliency features or through cost-sharing with AISD for capital or consulting costs.*

**\*\*These estimates are for physical upgrades needed to create resilient sites and facilities and do not reflect costs associated with the following:**

- Stocking emergency supplies, such as home emergency kits (for distribution to residents), MREs and other shelf-stable food, bottled water, childcare and hygiene products, first aid and medicines, etc., at each facility.
- Costs for ongoing operations and emergency activation (programming, staffing, training, etc.).
- Any costs related to increasing the resilience or redundancy of the utility infrastructure that serves the sites.

If you have any questions regarding the information included in this report, please contact me at

[Lucia.Athens@austintexas.gov](mailto:Lucia.Athens@austintexas.gov).

**CC:** Spencer Cronk, City Manager

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Rey Arellano, Assistant City Manager

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Richard Mendoza, Public Works Director

Jorge Morales, Watershed Protection Department Director

Brion Oakes, Chief Equity Officer

Juan Ortiz, Homeland Security and Emergency Management Director

Sylvia Holt-Rabb, Acting Economic Development Director

Ken Snipes, Austin Resource Recovery Director

Jennifer Walls, Fleet Mobility Services Director

**Attachment:**

Appendix (Pg. 5-11)

# APPENDIX

## What is a Resilience Hub?

The Resilience Hub concept comes from the [national dialogue](#) started at the Urban Sustainability Directors Network (USDN) and the subsequent [Resilience Hub Guidance Document](#). Staff has used this document to frame local conversations around the creation of Resilience Hubs and tailored the concept to Austin's local context and climate impacts. The USDN document defines Resilience Hubs as:

1. ***Physical facilities that provide day-to-day services and resources*** that address chronic stressors within the community and also support the community during disaster events.
2. ***Networks of residents, local businesses, nonprofits, and other organizations or individuals*** committed to assisting their neighbors before, during, and after extreme weather events.
3. ***Tools that shift power and decision-making to members of the community***, allowing the community to have autonomy over the selection and distribution of services and a portion of disaster preparedness and response in their communities.

Resilience Hubs provide **hyper-localized, contextually, and culturally relevant solutions to address ongoing stressors in communities and distributed disaster response and recovery efforts**. They increase accessibility by bringing City services and support into communities and empowering residents in the selection and distribution of services. The implementation of Resilience Hubs should prioritize communities where these services will be most impactful, such as those most impacted by historical disparities and inequities and most vulnerable to climate-related shocks and stressors.

**Resilience Hubs are not a replacement for traditional emergency and disaster response and sheltering plans.** They should work with, be a part of, and support the City, County, and Public Health Emergency Response plans. City staff has been working to adapt the USDN guidance and framework to the local Austin context and needs and created two distinct functional areas that Resilience Hubs should address:

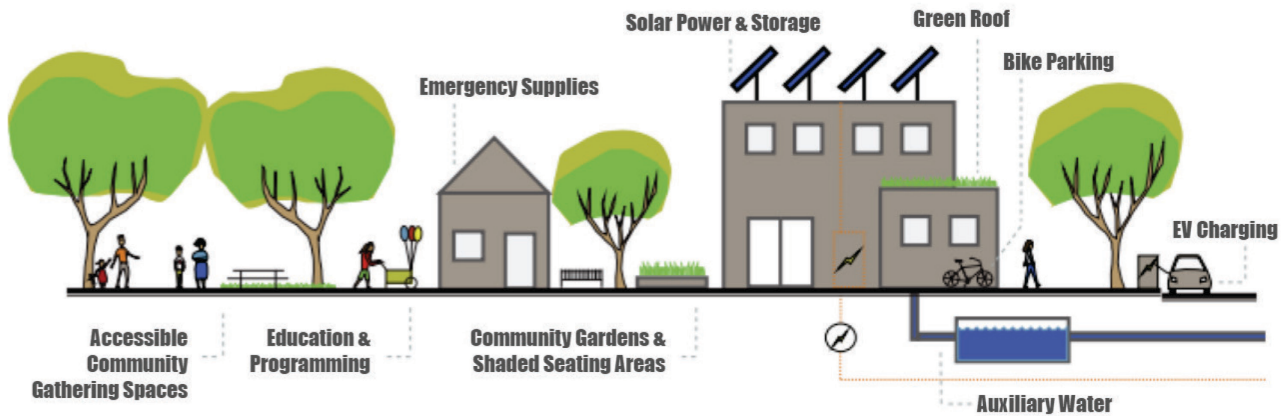
1. ***Community Capacity Building*** - Community-led and providing a suite of services and programming that address underlying stressors within the community.
2. ***Emergency Functions*** - Upgrading infrastructure to enhance resilience at critical facilities that can serve disaster preparedness and response needs in communities.

**Community Capacity Building:**

- Community ownership and decision making / power shifting
- Day-to-day services that address community stressors
- Community gathering spaces (indoor & shaded outdoor spaces)
- Community programming and events

**Emergency Functions (activation):**

- Staging area for mobile emergency response
- Resilient facilities, redundant utilities (power, potable & non-potable water, comms)
- Storage for food, water, meds (refrigeration), and other supplies.
- Community programming/education re: emergency preparedness
- Safe, all-abilities access routes from neighborhoods

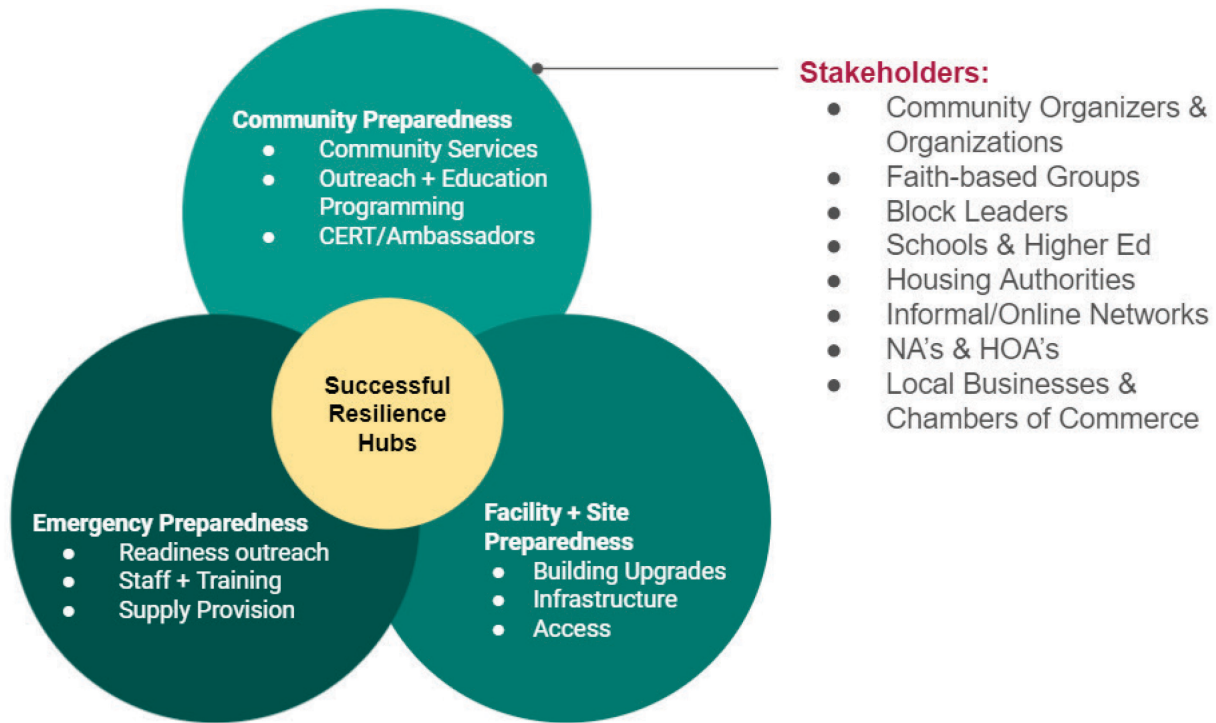


Because existing facilities all have unique features and capabilities and are located in neighborhoods with different needs, each facility may include a mix of elements as is feasible and impactful within its context. Resilience Hubs may include some, but not all, of the following features:

- Solar Power Installation
- Solar Battery Storage
- Other Backup Power – generators or fuel cells
- Electric Vehicle Charging – can provide resilience benefits outside of vehicle charging
- Backup Non-potable Water (for sanitary functions) - City-reclaimed water (purple pipe), rainwater capture
- Backup Drinking Water – in-line water cistern, onsite wet cistern, onsite dry cistern, portable cistern/bladder
- Dry Storage for Supplies
- Refrigerated Storage – walk-in or freestanding appliance
- WiFi & Backup Communications Systems
- MERV-13 Air Filtration and other Indoor Air quality upgrades
- Outdoor space and utility hookups for mobile disaster response
- Publicly accessible phone charging, shaded outdoor seating, drinking fountains, and restrooms
- Space for community meetings, educational programs, and training sessions

## THREE-PART MODEL FOR RESILIENCE HUBS

Planning and building Resilience Hubs is only one part of the equation to community climate resilience. Each of the following areas is equally important to prepare the community for emergency events: **Community Preparedness, Emergency Preparedness, and Facility and Sites Preparedness.**



All three elements noted above are critical to the success of Resilience Hubs in Austin. In particular, it is crucial that residents are both aware of and comfortable with going to these facilities, often when they are most vulnerable. The infrastructure and facilities themselves should be adequately prepared to resist the impacts of shocks and stressors to perform during times of emergency. Emergency response plans and processes should be in place to ensure that staff and supplies are available at these facilities.

Additional outreach and engagement will be necessary to adequately address and plan for all three of these areas, to co-create solutions in partnership with community members. To create a network of Resilience Hubs, staff will follow the phases outlined below as described in the USDN guide.





## EXISTING AND POTENTIAL RESILIENCE HUB COLLABORATORS

The Office of Sustainability is one entity among many in Austin looking at resilience in its many forms. Other related efforts and initiatives are described below. Any additional planning that is done around the creation of Resilience Hubs should adequately account for the work that has already been done by City staff and communities. Office of Sustainability staff worked with over 30 individuals from 18 City departments and several external partners, including Central Health, AISD, Travis County, and Central Texas Food Bank, to explore what it would take to deliver on the resolution's intent.

Representatives from the following departments and organizations have either participated in the working groups and staff conversations and will be consulted as the collaboration process moves forward. Additional partners will continue to be sought.

1. Austin Energy
2. Austin Energy Green Building
3. Austin Public Health
4. Austin Public Libraries
5. Austin Resource Recovery



6. Austin Water
7. Building Services
8. Housing and Planning Dept.
9. Homeland Security & Emergency Mgmt.
10. Equity Office
11. Office of Sustainability
12. Parks & Recreation Dept.
13. Public Information Office
14. Public Works Dept.
15. Austin Fire Dept.
16. Watershed Protection Dept.
17. Austin Transportation Dept.
18. Economic Development Dept.
19. Central Health
20. Austin ISD
21. Travis County
22. Central Texas Food Bank

Additionally, staff sought feedback from community members who are active in this space, including community leaders from the Colony Park neighborhood, the Reimagining Public Safety Task Force, and Go Austin/Vamos Austin (GAVA).

## OPPORTUNITIES TO COORDINATE WITH COMMUNITY EFFORTS

- ***Reimagining Public Safety Neighborhood Hubs*** - Preliminary [recommendations](#) from the City-Community Reimagining Public Safety Task Force considers new ways to use reallocated police funding to help support the community in times of crisis. One of the recommendations includes establishing “Neighborhood Hubs” within communities that serve many of the same purposes as Resilience Hubs. We recommend these two efforts work together.
- ***Eastern Crescent Community Leaders Press Release*** - [A press release](#) put out by GoAustin/VamosAustin (GAVA) in the wake of Winter Storm Uri demands better preparedness from the City of Austin for future emergencies and calls for key items to be included in the FY22 City budget for the creation of Resilience Hubs. The asks include funding for critical materials, resources, and upgrades to facilities and specific staffing of Parent Support Specialists and medical, mental, and community health workers.
- ***Community Initiatives*** - There are many community organizers and organizations working on climate resilience in their communities. For example, GAVA has created a Climate Resilience Navigators program to engage community members in Dove Springs about flood awareness. The City’s Resilience Hub initiative should partner with these individuals and groups to support and expand their work, as they are the true and trusted experts within their communities.
- ***Food Hubs*** - Staff in the Economic Development Department and Office of Sustainability have been exploring the need for more permanent Food Distribution Hubs. These hubs could have some overlap with Resilience Hubs, including a food pantry, food storage for emergency distribution, food-specific community and economic development center, publicly owned and operated food warehouse with storage and commercial facilities for local producers, etc.
- ***Mobility/Transportation Hubs*** - The Smart Mobility Division of the Austin Transportation Department is working with community partners to co-create a mobility-focused community hub pilot in the Georgian Acres Neighborhood. The community hub design would feature

transportation and mobility options and include other community amenities that would serve similar purposes as some elements of Resilience Hubs.

- **Update on Resolution 20200507-022 – Community Resilience Planning** - [This recent memo to Council](#) is the third in a series of updates related to Community Resilience Planning. This work broadens the definition of “resiliency” beyond climate to include areas such as economic resiliency, housing resiliency, and social cohesion or resiliency in the face of civil unrest or unforeseen collective stressors. These efforts are separate from, but complementary to, climate resilience work. Once a new Chief Resilience Officer has been hired, their role related to the resilience efforts discussed in this memo will need to be determined.
- **AISD Resilience Planning** - AISD recognizes that in times of disaster, they are often looked to by communities to provide services. In light of AISD’s recent work in weather-related and COVID-19 response, they are interested in being more proactive in resilience planning. This provides the opportunity to dovetail the City’s and School District’s efforts and generate major benefits for the communities that both entities serve.
- **Winter Storm Review Task Force** - Following the severe weather events of Winter Storm Uri that impacted residents in February 2021, the City of Austin established a Winter Storm Review Task Force to identify strategies for building a more resilient, better-prepared City and community response for future disasters. Recommendations and lessons learned can be incorporated into these efforts.

## IMPACTS OF A CHANGING CLIMATE IN AUSTIN

In 2013, City Council passed a resolution to identify the potential environmental, economic, and social impacts to City operations and assets resulting from climate change, which led to the development of [climate change projections through 2100](#) and the [Toward A Climate Resilient Austin](#) report. A changing climate is expected to generate more extreme weather — increasing the frequency, intensity, and unpredictability of disaster events. The major impacts projected in Austin as a result of climate change are listed below.

- **Increased Extreme Heat** - Ambient heat is [very dangerous](#) for residents, and with more extreme heat days expected in our future, more Austinites will be impacted. Additionally, extreme heat means more stress on the electric grid, higher utility bills, and major impacts on our local ecosystems.
- **More Extreme Periods of Precipitation and Drought** - Although the annual amount of precipitation for Austin is expected to remain relatively steady, it is predicted that our rain will come less frequently, meaning single storm events will be more intense and longer periods of drought in between. This will lead to increased flooding, impact our water quality, change our local ecosystems and agricultural production, and put a strain on our local drinking water supply.
- **Increased Wildfire Risk** - The convergence of increasing heat and drought in Austin is expected to increase the frequency and intensity of wildfires in our region, including forest fires in our western ecosystems and grass fires in our eastern ecosystems. In addition to house fires, a major impact of wildfires is smoke, meaning residents and communities who may not be in imminent danger of a fire can still suffer the health impacts of bad air quality.

In Austin, low-income communities and communities of color are bearing the brunt of climate change impacts, often being hit first and worst and lacking the investment and resources needed to recover. These impacts will continue to result in various immediate shocks and long-term stressors in our community, often on top of existing stressors and disparities related to income, health, etc. Because of this, **climate resilience work should center low-income communities and communities of color in the planning processes, build an equity lens for all staff participating in these processes, and move toward community leadership and ownership to the maximum extent possible.**

#### **Winter Storm Uri, uncertainty, and the “new normal”**

In 2014, the Office of Sustainability hired ATMOS Research, led by Dr. Katharine Hayhoe of Texas Tech University, to develop [geographically-specific climate models through 2100](#) for Central Texas, using the Camp Mabry weather station. These projections have been utilized for various mapping efforts to assess vulnerability and plan for climate-related impacts. The models predicted more extreme high temperatures, extended periods of drought, increased risk of wildfires, and flooding from heavier precipitation. Extreme winter weather was not one of the most likely risks identified at the time. The Office of Sustainability is now in the process of pursuing updated climate modeling because scenarios related to climate change impacts continue to evolve as scientific modeling methodologies become more sophisticated.

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 community members, and stressed infrastructure. The extreme winter weather experienced during Winter Storm Uri can now be added to this list of devastating weather events.

It is difficult to say for certain if climate change is directly linked to the recent winter storm. However, it is fairly safe to say that recent extreme winter conditions resulted from a weakened jet stream that allowed frigid weather from the Arctic Circle to reach Texas. Climate scientists have linked climate change to this type of jet stream behavior. Evidence suggests that climate change may destabilize the polar vortex — driving arctic blasts further South and allowing Arctic air to create extreme cold events like those we have recently experienced. The Arctic is warming faster than the rest of the planet, destabilizing the ‘fence’ made by the jet stream around the Arctic.