3.3 The City of Tucson: Pioneering Equity and Community-Centered Approach in Resilience Planning

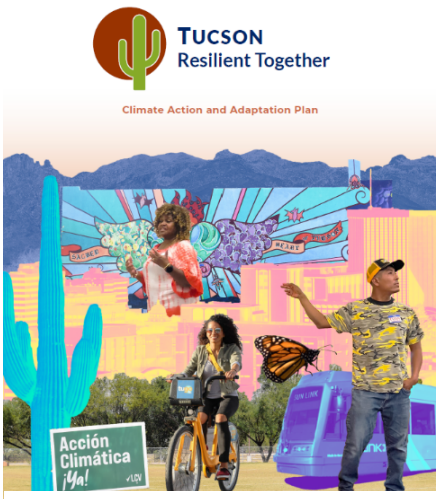

Figure 13: Cover of the Tucson Resilient Together

The City of Tucson is one of the fastest-warming cities in the country. In 2020, it broke a record with more than 100 days experiencing temperatures exceeding 100 degrees. Facing growing threats of extreme heat, wildfires, and drought, Tucson declared a Climate Emergency in September of that year. With a unanimous vote from the Mayor and City Council, the city endorsed the Declaration and called for collaborative action on climate change. This effort resulted in Tucson setting goals to achieve carbon neutrality by 2030 for city operations and by 2045 for the whole community.

How the plan was developed

The Climate Emergency Declaration required the development of a Tucson Resilient Together plan ("the Plan"), which was formed in the 2022-23 period, and officially adopted by the Mayor and Council in March 2023. It provides assessments of climate vulnerability and risk, greenhouse gas emissions, and creates a climate action roadmap for implementation, structured in 5 categories (see Figure 14).

Tucson's climate action planning process is guided by seven community partners, including National Association for the Advancement of Colored People, Paisanos Unidos, Southside Worker Center, AZ Local First, International Indian Treaty Council, AZ Youth Climate Coalition, and the San Xavier Coop.

The Mayoral Climate Action Advisory Council (CAAC) and the Commission on Climate Change, Energy, and Sustainability (CCES) also guided the planning process. The CAAC comprises various stakeholders and climate experts across Tucson and the State of Arizona. The CAAC's role is to advise the Mayor and Council on the development and implementation of the Plan.

In January 2022, Tucson initiated the planning process by assembling a consultant team to begin developing the technical side of the Plan. The team included Buro Happold, the project lead responsible for coordinating the entire planning process, drafting and presenting the plan; Living Street Alliance, tasked with developing and implementing the engagement strategy; Autocase Economic Advisory, which conducted cost-benefit and multi-criteria decision analyses for the Plan; and the Drachman Institute at the University of Arizona College of Architecture, Planning & Landscape Architecture, which

Figure 14: Five categories of Tucson's climate action roadmap

focused on the risk and vulnerability assessment. The consultant team started by reviewing Tucson's policies, programs, and climate conditions. They conducted a comprehensive gap analysis, comparing the city's efforts to current best practices. With the consulting team's help, the city was able to make efficient and data-driven decisions, which helped them prioritize their implementation strategies.

Strategic Analysis: CBA and MCDA

The development of the Plan involved the use of two key analytical approaches: Cost-Benefit Analysis (CBA) and Multi-Criteria Decision Analysis (MCDA). The CBA aimed to quantify the financial, social, and environmental costs and benefits: its findings were presented in terms of net present value (to measure total benefits), benefit cost ratio (to measure benefits generated per unit invested) and associated with metric tons of CO_2e reduced during the implementation period.

The MCDA was developed to support an evaluation of the strategies, incorporating qualitative considerations such as equity outcomes, community drivers, and other project characteristics. This approach allowed for sustainable-based ranking, aiming to prioritize specific strategies for implementation that received high scores. A list of criteria, sub-criteria, and a quantitative scoring framework has been specifically designed for the preliminary phase of the capital planning process. This includes three key steps:

1. Establishment of broad criteria, which remain consistent across various strategies, and sub-criteria, which are tailored to the specific sets of strategies and actions for each category.
2. Allocation of weights to each criterion and sub-criterion.
3. Evaluation and scoring of each strategy.

The Analytic Hierarchy Process (AHP) was employed to analyze the relative preferences between the broad and sub-criteria and establish the weights used for scoring. This involves conducting simple pairwise comparison, leveraging a ranking system to assess the relative importance of each criterion on a scale from 1 to 9. For more in-depth information, please refer to the document titled "The City of Tucson Cost-Benefit Analysis and Multi-Criteria Analysis of Key Climate Action and Adaptation Strategies", authored by Autocase Economic Advisory in collaboration with Buro Happold.

The team carried out an extensive community engagement effort to incorporate diverse voices from a wide range of residents. See Figure 16 for community engagement photos. The process unfolded in three phases: Listening, Visioning, and Strategizing. the Listening phase involved two aspects: pre-consulting team activities, which included surveys and listening sessions, and consulting team efforts, encompassing community dialogues, pop-up events, large public workshops, a meeting with a business leader, and an open house for NGOs., The Visioning phase involved raising public awareness through training and workshops. The final phase, Strategizing, concentrated on identifying best practices and strategies. Community members were invited to review selected strategies and suggest recommendations. Reflecting on this process, Jeremiah Dean, Lead Planner from the Department of Housing and Community Development stated:

"What made the Plan unique to Tucson was the community input. We partnered with seven groups and had multiple engagement methods. We reached out to about 5,000 people from over 150 groups. The planning process and the document helped consolidate both the concern and what's needed, creating a clear pathway for moving forward. There were times when we were pressured with timelines. We originally wanted this plan to be done in eight months, but we had to pause, recognizing that our community partners needed more time. We decided to adjust the time frame to honor our commitment and respect our community processes. The decision proved

worthwhile, as it improved our relationships with our community partners and is expected to make things easier for implementation moving forward."

Resilience Hub

In response to community feedback highlighting the need for resilience hubs and cooling centers, Tucson established Strategy CR-1. This strategy focuses on expanding resilience hubs equipped with multi-lingual and multi-format resources. A diverse network of cooling centers has been established by various organizations (see Figure 15), including the city and nonprofits like the Salvation Army. has been launched. Additionally, the city is developing emergency response protocols with the support and guidance of the Pima County Health Department.

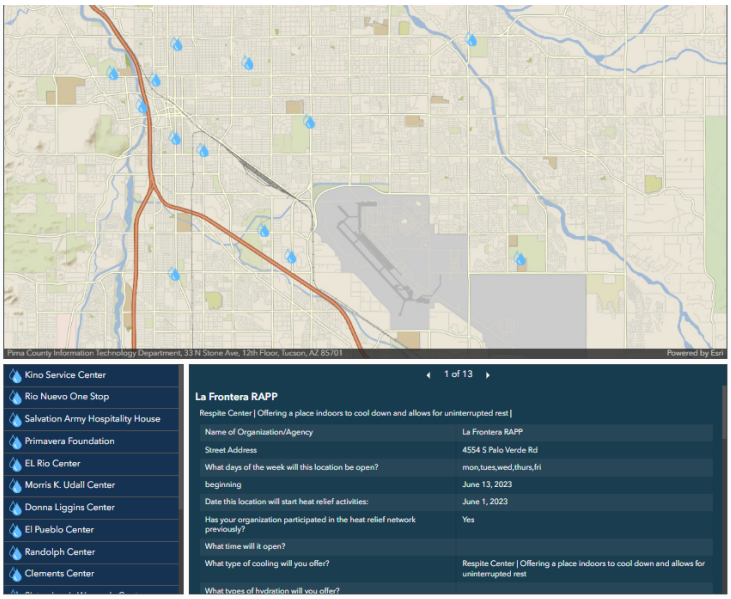

Figure 15: Pima County cooling centers

Figure 16: Community engagement activities

Implementing the plan

The Plan identified 24 strategies, comprising 123 actions. Strategies and actions were detailed in terms of projected costs, expected completion timelines, potential funding sources, and the key city departments involved (see Figure 17). The Plan is considered a living document that must be reviewed and updated regularly. To do so, the City Action Team (CAT), comprising representatives from different departments, was formed as Plan implementation progressed. The CAT has played a crucial role in coordinating the various aspects of the planning process and funding opportunities, ensuring that all elements are aligned and moving forward in a cohesive manner.

The city is tracking implementation progress, with quarterly reports presented to the Mayor and Council. These reports are compiled through discussions with the departments responsible for implementing the actions. Recognizing the need for a more systematic approach, Tucson is in the process of creating a public dashboard within the existing Climate Action Hub, backed by an internal tracking system. This will monitor the advancement of the 123 actions and their emissions impacts. In addition to transparently sharing their progress with the community, the city aims to assess areas for improvement.

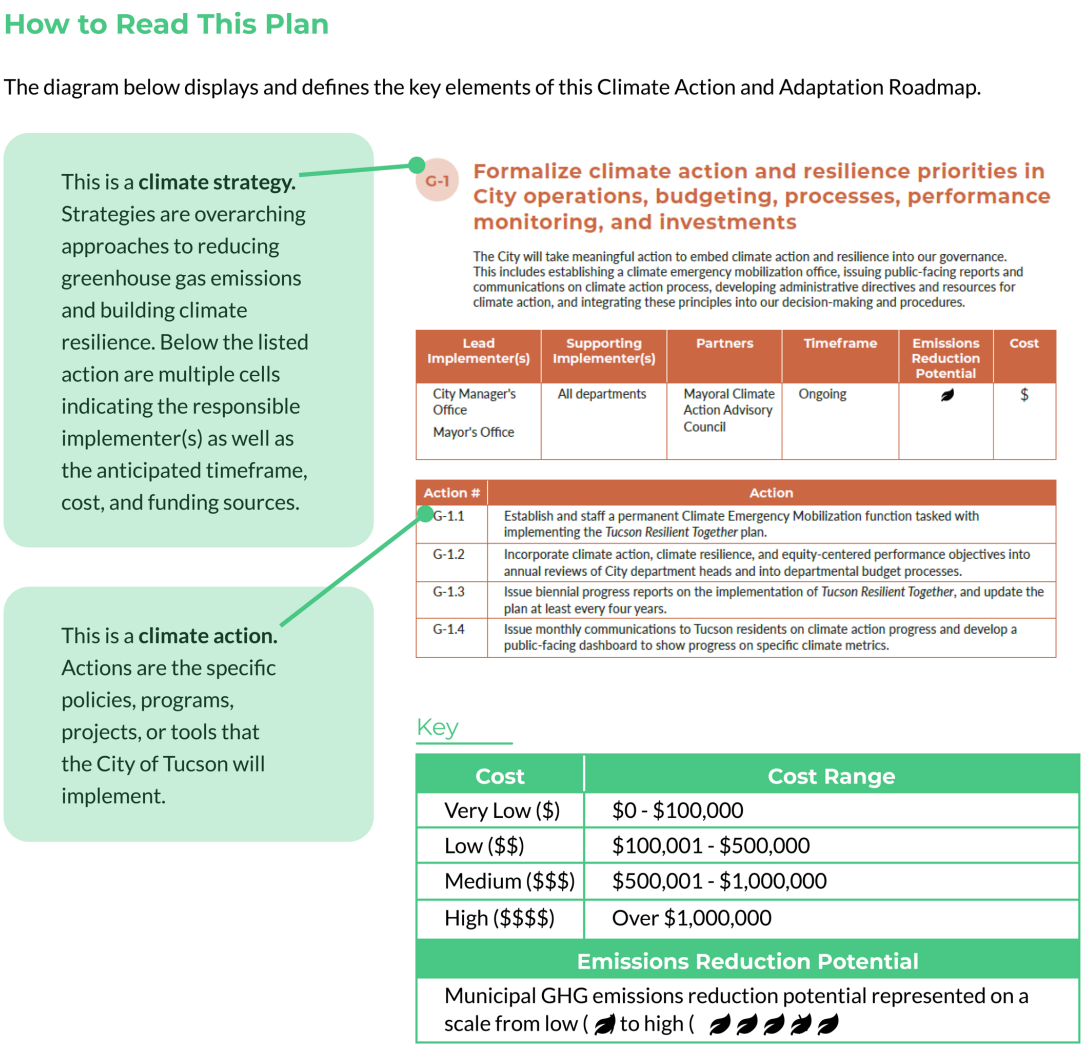

Figure 17: How to read the plan

Tucson is actively seeking funding opportunities for advancing its resilience efforts. The city's mayor and council have already applied for American Rescue Plan Act (ARPA) funding by allocating $9.6 million towards climate resilience over three years. Simultaneously, the city is leveraging federal investments in climate action, having secured $33 million in grants for climate projects and submitted applications for an additional $90 million. The CAT proactively seeks out available funding and forms partnerships to secure these funds. This includes leveraging opportunities from the Inflation Reduction Act, such as the Climate Pollution Reduction Grant and Community Change Grant programs. The city invited proposals from consulting firms (refer to the request for proposal) to review Plan actions such as exploring utility

municipalization, microgrids, and virtual power purchase agreements for solar energy, and help the city move forward on the most feasible actions.

Plan Highlights

- Just and equitable climate action. The Plan stands out for its emphasis on equity and community engagement. The city views climate change through the lens of social justice, recognizing that the impacts of climate change disproportionately affect frontline communities. These impacts are often felt most acutely by communities of color and low-income groups who lack equal access to institutions and services. Tucson adopted a targeted-universalism approach, setting broad goals to meet the diverse needs of various groups, considering social structures, cultural dynamics, and geographies. Throughout this process, Tucson aimed to prevent an 'extractive' relationship by prioritizing reciprocity, sharing resources, and compensating people. Fatima Luna, Climate and Sustainability Advisor, describes the process as a commitment to a two-way relationship:

> *"We started by building relationships with community groups, which helped us identify gaps and needs. We aimed for a reciprocal relationship and compensated the people we collaborated with. City staff met with community members who could attend workshops to decide what was best for their group. We set them as Community Ambassadors because they know their community best. Our role was to provide support, resources, and stipends to them. We compensated the ambassadors as trained facilitators. This was key as it put them on the same level as other consultants."*

- Resilience in buildings. Because Arizona is one of the few states that grants localities home rule on building codes, the city is able to determine its own energy code without any minimum or maximum code adoption requirements from the state. Tucson generally follows International Code Council codes, including the International Energy Conservation Code (IECC), but also adopts its own provisions. One of the first such actions was to incorporate an Electric Vehicle Readiness Roadmap into code requirements. The Roadmap was approved by the Mayor and Council. In June 2021 Tucson further amended its energy code, the 2018 IECC, to mandate that all new one- and two-family homes must be EV-ready by providing a 40-amp/240-volt circuit and charger receptacle near a parking space. The city anticipates that these requirements will facilitate the transition to EVs by expanding charging infrastructure.

  A collaboration that Tucson is part of has received a $3.5 million Resilient and Efficient Codes Implementation (RECI) grant. This Resilient Southwest Building Code Collaborative project is a concerted effort by local jurisdictions to develop a set of efficient and resilient southwest-specific building codes, led by New Buildings Institut. The 4-year project, which kicked off October 2023, will result in the development of a Regional Resilience Code, along with implementation resources for local building departments including training for staff under the guidance of the International Code Council.

  These efforts align with Tucson's goal to electrify and decarbonize existing and new residential and commercial buildings. This effort includes encouraging all-electric HVAC and hot water systems in new buildings and providing resources to tenants and owners to support retrofitting existing buildings. Such resources will include a home energy audit and retrofit program prioritizing low-income families and homeowners. Additionally, a Revolving Loan Fund was established to assist small businesses in financing their solar and energy efficiency projects.

What can we learn from the City of Tucson's planning effort?

The city's approach to resilience highlights the importance of continual progress over perfection. Michael Catanzaro, Energy Manager for the City of Tucson, shared his insights:

"In terms of resilience, it's important to focus on what you're trying to solve. Getting too caught up in making everything clean and perfect can get in the way of progress. I feel like we're getting recognition and it's not to get complacent because it's a constant iteration. It's a constant improvement. You can always get better at measuring your greenhouse gas emissions and improving implementation processes. There's always room for refinement and it's part of a cycle that needs to be embraced by communities because it's ongoing."

Three principal elements stand out from the Plan and interviews with city staff:

1. The city's focus on equity and community engagement underscores the importance of viewing climate change as a social justice issue, ensuring that the voices and needs of frontline communities are considered.
2. The strategic partnership with a diverse consultant team demonstrates the benefits of leveraging external expertise for technical analysis and planning.
3. Tucson's proactive approach to securing funding for planning and implementation highlights the importance of financial planning. By actively applying for grants and other opportunities, Tucson has been able to secure substantial resources for its initiatives. Tucson's resilience effort is proof positive that when you put the right people together and have them focus on forward movement over perfection, great things can happen.