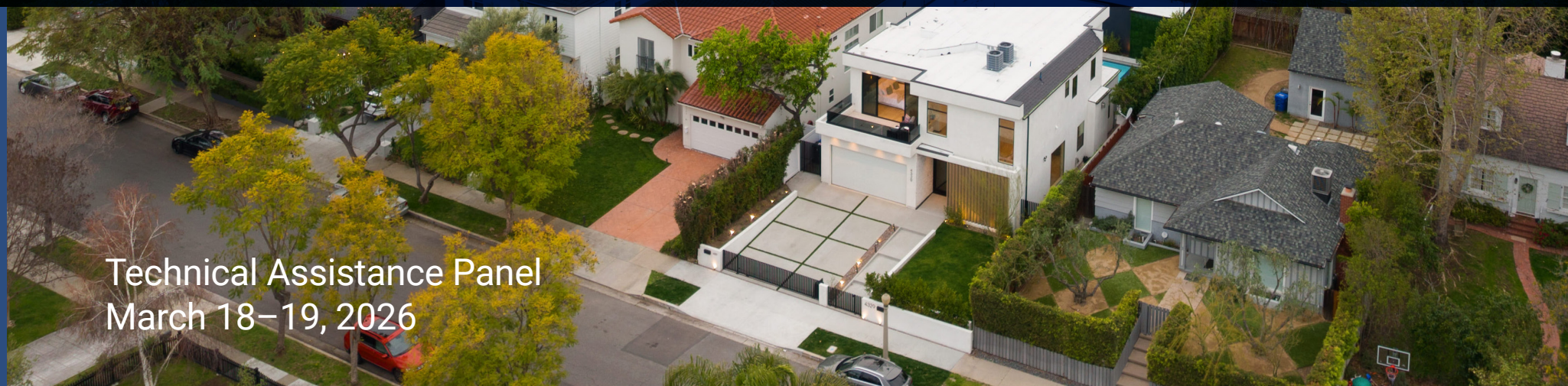
ULI San Fransisco

ADVANCING SAN JOSE'S CLIMATE ADAPTATION AND RESILIENCE PLAN

San José, California



Technical Assistance Panel
March 18–19, 2026

About

Urban Land Institute

The Urban Land Institute (ULI) is a global, member-driven organization comprising more than 45,000 real estate and land use professionals dedicated to advancing ULI's mission of shaping the future of the built environment for transformative impact in communities worldwide.

ULI's interdisciplinary membership of professionals from private enterprise and the public sector represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, ULI has a presence in the Americas, Europe, and Asia Pacific regions, including over 2,100 members in ULI San Francisco (sf.uli.org).

ULI Randall Lewis Center for Sustainability in Real Estate

The ULI Randall Lewis Center for Sustainability in Real Estate (the Center) leads the real estate industry in creating places and buildings where people and the environment thrive. In collaboration with ULI members and partners, the Lewis Center drives industry transformation, cultivates leaders and champions, and helps foster solutions for sustainable, resilient, healthy and equitable cities and communities. The Center pursues these goals via cutting-edge research, global convenings, community technical assistance, and other strategies. The Center's main programs are Decarbonization, Urban Resilience, and Healthy Places.

California-Nevada Technical Assistance Leadership Exchange

The ULI California-Nevada Technical Assistance Leadership Exchange advances innovative solutions to regional land use and climate resilience issues through collaboration between local governments, public sector leaders, and the real estate industry. The program facilitates connections, dialogue, and expert exchange to explore strategies for creating resilient and sustainable communities through land use and real estate interventions.

Seven public agencies in California and Nevada were selected to participate in this program. Working in tandem with their closest ULI district council, each of these agencies hosted a Technical Assistance Panel focused on a specific resilience and land use challenge in their communities. The fundamental goal of the effort is to provide concrete ideas and strategies to public sector leaders to advance resilience in the built environment. Through its work, the program will create resources to help all ULI members accelerate resilient land use in their communities.

Cover photo: The City of San José is working to address current and future climate threats through the recent release of the city's Climate Adaptation and Resilience Plan.

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About

ULI TAPs

The ULI San Francisco Technical Assistance Panel (TAP) program is an extension of the national ULI Advisory Services program. ULI's advisory services provide strategic advice to public agencies, nonprofit organizations, or nonprofit developers on complex land use and real estate development issues. The program links clients to the knowledge and experience of ULI and its membership.

Since 1947, ULI has harnessed the technical expertise of its members to help communities solve difficult land use, development, and redevelopment challenges. Since 1982, ULI San Francisco has adapted this model for use at the local level, delivering over 52 TAPs.

The TAP process includes extensive preliminary briefings followed by an intensive two-day, in-person working session in the client's community. A detailed briefing package and guided discussion are provided by the client to the TAP panelists in advance of the working session. The ULI panelists then tour the study area, interview stakeholders, and address a set of questions proposed by the client about a specific development issue or policy barrier within a defined geography. The product of these sessions is a final presentation and report, detailing the TAP's responses to the client's questions, as well as a diverse set of ideas and suggestions.

Learn more at: sf.uli.org/get-involved/technical-assistance-panels/

Technical Assistance Panel

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Acknowledgments

ULI San Francisco would like to thank the City of San José for inviting ULI to make recommendations relating to the City's implementation of four key measures of the Climate Adaptation and Resilience Plan. In particular, ULI would like to thank the City's elected representatives and staff leadership for their assistance leading up to and during the panel work session. Seena Eghtedar-Shenas and Sarah Emerson from the City's Energy Department generously sharing their time and insights, which elevated the ULI team's work product. Finally, ULI thanks the stakeholders who contributed to this effort through their meetings with the panel and thus assisting with its critical discovery phase.

Executive Summary

The City of San José, California, recently adopted its Climate Adaptation and Resilience Plan, which is the roadmap for City of San José departments and staff to make changes in policies and procedures, to increase the adaptive capacity of the built and natural systems of San José, and create a more resilient community.

Under the leadership of San José's Energy Department (ED), the City of San José (the City) is considering where and how to implement the 19 measures detailed in the Climate Adaptation and Resilience Plan (CARP). Working with the Urban Land Institute San Francisco District Council (ULI) and in partnership with ULI's broader California-Nevada Technical Assistance Leadership Exchange, the City asked ULI to convene a technical assistance panel (TAP) to assist in developing an approach to prioritizing and implementing the CARP. As a result, the TAP explored four key measures and made recommendations to the ED team they could follow as they initiate implementations of the CARP throughout the community.

Convened over two days, the TAP process was informed by a tour of a key public infrastructure project, a briefing with ED staff, and interviews with other City leaders, community members, related nonprofit organizations, and representatives from the business community. The TAP considered the gathered information, discussed their professional perspectives, and arrived at a series of recommendations the City and ED can consider as they determine the best path forward for citywide CARP implementation.

Knowledge: Research and Best Practices

The first two CARP measures relate to site- and system-specific vulnerability studies (Measure 1) and climate resilience and adaptation funding (Measure 2).

Establish CARP governance. The TAP believes it is critical that the City first establish a governance structure for the CARP work. This governance board should be characterized by aligned leadership ready to support and champion the work ahead and serve as the backbone for decision making. CARP governance should be managed by a leadership board comprised of the City Manager, department directors, and lead CARP staff from the Energy Department. Additionally, the City's Climate Ready Working Group, an internal and stakeholder advisory committee instrumental to guiding the initial CARP strategies, should reconvene to support the implementation and coordination of the measures.

Conduct site- and system-specific vulnerability studies. Through a system-wide view of vulnerabilities, a new prioritization framework can guide resource allocation, reduce citywide climate risks, and support the case for proactive investments to deepen community resilience. The framework should include risk reduction, asset criticality, equity and community benefit, cost-effectiveness, co-benefits, readiness and feasibility, and policy priorities. Weighted scores are based on priorities, with projects added as updates to the City's existing capital improvement plan, ensuring that resilience is woven into existing processes.

Map climate resilience and adaptation funding. The Climate Ready Working Group should be charged with steps 1-3 below, which should then be sent to the CARP Leadership Board for approval, modification, and assignment of staffing (steps 4 and 5).

1. Map the CARP measures, identifying staffing needs.
2. Identify (a) funding needs and (b) measures that can be funded through existing programs.
3. Categorize funding types as a one-time occurrence or an ongoing need.
4. Match measures with potential new and/or existing funding.
5. Assign staffing to pursue funding.

Pursue climate adaptation funding options. The TAP identified a range of funding options, including taxes, fees, grants (specifically those from the State of California), philanthropy, more nuanced options like a climate superfund, and more traditional lending and debt/equity sources.

Design Standards

Resilience should be mandatory, measurable, and iterative, with regular evaluation that informs adjustments and course corrections along the way. The TAP recommends establishing risk evaluation and design standards to incorporate climate change projections and climate hazards into design and siting decisions for city infrastructure. These design standards should be embedded into the process, with information about project scoping, design, and funding included. Resilient design should be treated as core infrastructure governance, and community co-benefits should be leveraged and prioritized across all efforts and through nature-based solutions. Finally, design for vulnerable communities should ensure reliable access to critical services.

Use a risk matrix to inform decision making. Using a risk matrix, the likelihood of failure can be compared with the consequences of failure, thereby characterizing the risk's severity and helping prioritize projects. Similarly, a risk matrix can help the City anticipate downtime associated with each hazard and prioritize mitigations to reduce potential losses.

Develop design standards. The City is encouraged to convert its deep data resources into standards and solutions that are actionable, replicable, and matched to defined risks. Adaptation options should be identified and strategies right-sized. Interventions, solutions, and asset lifespans

should match the risk magnitude and the benefits and trade-offs considered in the process.

- Plan for sea level rise and stormwater management using future-focused design standards tied to trigger points, green infrastructure and nature-based solutions, grey infrastructure, and hybrid solutions.
- Plan for and managing extreme heat conditions with shade, expanded urban forestry, and thoughtful placemaking that features trees, shade, water, and airflow.
- Address wildfire and smoke risks with design standards, operational protocols, and supporting infrastructure scaled to potential risk and a citywide vegetation management plan.
- Update EV fleet infrastructure and address risks to emergency operations using mandated standards for EV-ready fleets, charging and expansion, EV fleet expansion, and a response operations plan.

Equitable and Effective Structures and Governance

The TAP developed its recommendations for community-serving facilities and resilience hubs, with equity, efficiency, and expansion opportunities in mind. This work will require a co-designed approach, wherein community plays a key role and a co-governed ecosystem of partners provides complementary resources.

Roles and ecosystem contributions. The resilience ecosystem is expansive. The robust network of potential contributors can be most effectively activated when everyone understands and values their unique contributions to the broader effort. The City, the community, businesses, and regional entities each play important roles.

- The City provides leadership and vision, establish priorities, and serve as a connector among partners. The City should also set and track key resilience metrics.
- The community is well equipped to co-design and co-manage resilience hubs and lead additional outreach, education, and programming across geographies.
- Regional organizations are best positioned to share knowledge across

jurisdictions and connect regional partners to local efforts.

- Businesses produce innovative ideas and supportive capital to pilot, refine, and launch ideas quickly.

Map the broader resilience hub ecosystem. The TAP encourages the City to look towards existing resources that can serve dual purposes, saving costs and taking advantage of showing up in all the right ways where the community already convenes. There are often existing buildings within a community that, together, can form a resilience ecosystem. With certain updates, these existing buildings can continue to serve the community's daily needs while also being activated to provide critical resources and services in times of crisis as part of a broader ecosystem of resilience resources.

Establish a timeline for new resilience hub formation. The TAP considered the path for launching new resilience hubs and outlined steps to help guide the efforts. The hubs should be co-created with the community to support social resilience and deliver tangible, relevant action. Leveraging existing research, real estate assets that could be used as hubs should be identified, and the associated risks quantified. The next step is to organize and mobilize resources, followed by implementation, starting with staff training, supply distribution, and low-impact development projects.

Communications

Community resilience starts with the City aligning its authority and resources with the community to share responsibility, maintain accountability, and deliver tangible change. A collaborative co-governance approach is critical to prioritizing action, enabling implementation, securing funding, and supporting long-term resilience. Communications are a common thread that weaves together the work and connects departments, teams, the community, and partners to the work and to one another. Rather than a one-time effort, ongoing effective communications are critical to include and activate throughout all steps associated with implementation of the CARP.

Prioritize building trust. Building trust with community members can help the City achieve its climate and resilience goals while engaging future climate stewards from the community. The TAP outlined best practices in community engagement and trust building, including being inclusive, recognizing engagement fatigue, compensating residents for their time, and meeting community members where they are.

Engage partners. Every community has trusted and embedded community partners who can also help expand limited staff capacity. Ensuring space for these community partners and coordinating and aligning efforts on multi-benefit projects and regional efforts are important.

Communicate successes. In addition to sharing information on the City's efforts, ED is encouraged to share how individual community members can build their personal resilience while also supporting broader community resilience.

Conclusion

The City of San José has outlined a practical, achievable path to community-wide resilience through its Climate Adaptation and Resilience Plan. Building upon this work, the efforts outlined by the TAP are designed to set the ED team up for success. Their work will support individuals, neighborhoods, and broader communities, protecting the people, buildings, and natural assets that make San José special to those who call it home. With additional clarity on potential risks, prioritization of efforts, and mobilization at all levels, the City can implement the thoughtful and ambitious measures outlined in the CARP.

Introduction and Background

The city of San José, California, faces a number of increasing climate-related risks that are putting its population, and particularly its vulnerable community members, at risk. Extreme heat, flooding, sea level rise, drought, and wildfire each have the potential to dramatically impact the lives of city residents. To better withstand, adapt to, and recover from climate-related impacts to the community, the City of San José adopted its Climate Adaptation Resilience Plan in early 2026. Built upon earlier Climate Smart San José efforts, the Climate Adaptation Resilience Plan (CARP) details 19 measures that are designed to reduce the present-day risks to the community and, at the same time, build the community's resilience to future climate-related events through systemic change.

To help the City of San José (the City) and the Energy Department (ED) begin implementing the CARP, the City turned to the Urban Land Institute San Francisco District Council (ULI) for guidance. ULI, through its trusted and objective technical assistance panel (TAP) program, convened a panel of real estate, design, engineering, and resilience professionals from across the Bay Area with the expertise to guide the City in implementing the CARP measures.

Over two days, the ULI TAP met with City staff and interviewed professionals working on climate and resilience efforts in both the public and private sectors. Additionally, to further illustrate the scope of the city's challenges and to demonstrate certain climate-ready infrastructure solutions at work, the City arranged a tour of the San José–Santa Clara Regional Wastewater Facility. Located in northern San José, along the shores of the San Francisco Bay, the wastewater treatment facility was originally built to leverage gravity from land sloping to the Bay, yet today, this same position puts the facility at risk of near-term flooding and future sea level rise. The improvements made to the facility to date—integrating new, resilient designs, creating redundancy, and planning for emergency response—serve as excellent examples of public-sector resilience improvements.

TAP Questions

The TAP was asked by the City of San José to address the following questions relating to the stated measures found within the City's Climate Adaptation Resilience Plan.

1. Knowledge: What additional research and studies are needed--and what best practices should be explored--to support the implementation of CARP measures 1 and 2?
2. Governance + Policy: What are the best practices and strategies for establishing resilient design standards that would support the implementation of CARP measure 9?
3. Structural: How can the City ensure equity is at the forefront of considerations in the CARP implementation phase, particularly focused on supporting implementation measure 13?
4. Communication: What are best practices for ensuring ongoing community engagement, input, and communication during the implementation of the CARP as they relate to the implementation of the measures highlighted in questions 1-3?

Measure 1: Site- and System-Specific Vulnerability Studies (VS) – Conduct research on mobile home parks, City facilities, and water systems to fill data gaps.

Measure 2: Climate Resilience and Adaptation Funding (AF) – Explore diverse funding options to pay for resilience and adaptation efforts.

Measure 9: Resilient City Infrastructure Design Standards (CD) – Update design standards for City-owned assets and buildings.

Measure 13: Community-Serving Facility Upgrades and Resilience Hubs (RH) – Retrofit libraries and community centers with backup power and HVAC upgrades to serve as emergency shelters.

What the TAP Heard

To provide the TAP with insights into current resilience efforts, information relating to community and nonprofit efforts supporting CARP measures, and to help illuminate other challenges and opportunities, the City invited representatives from a number of City departments and private/public organizations to participate in interviews with the TAP. The following groups illustrate the diversity and depth of the information gathered during the interviews: the Fire Department, the Planning, Building, and Code Enforcement Department, the Department of Transportation, the Environmental Services Department, the Bay Area Council, CAL FIRE, Climate Resilience Communities, Our City Forest, Santa Clara Valley Water, SPUR, and other community partners.

From those interviews, the following themes emerged:

- **Department priorities need better alignment.** Centralized leadership is needed to help departments align resilience priorities. The wastewater treatment plant is a powerful example of successful collaboration that advances climate resilience.
- **There are notable funding and capacity constraints.** Limited staff capacity and reliance on external funding slow progress and CARP implementation.
- **There are gaps in engagement.** Vulnerable communities have been identified, but additional outreach and trust-building are needed, along with ongoing mechanisms for engaging community members.
- **Guidance is welcome on near-term actions.** Staff are capable and engaged and welcome guidance on practical first steps to implementing the CARP.
- **Resilience should be integrated into other City efforts.** Embedding resilience into existing City priorities, such as housing, will strengthen overall outcomes for the city and its community members.

The above word cloud was generated from the information gathered during the interviews, highlighting areas of opportunity and improvement.

The TAP began its work with a briefing from key City staff.

Knowledge: Research and Best Practices

Given the range of expertise on the TAP, the City asked for insights and guidance on additional research that may be needed and best practices that could be applied to support the successful implementation of the first two CARP measures. These measures relate to site- and system-specific vulnerability studies (Measure 1) and climate resilience and adaptation funding (Measure 2).

The following section provides a roadmap for the City to implement foundational components that will guide the work ahead.

CARP Governance

Resilience is not the responsibility of any one department. The interconnected nature of the City's operations and the vast range of resilience efforts required in a city of San José's size make this an every-department responsibility. At the same time, if resilience responsibilities belong to everyone, they belong to no one; some form of governance and centralized leadership is required to ensure constant pursuit, attention, goal measurement, and community protection.

The TAP recognized the need to establish a governance framework built on a network of champions across departments to support this important work over the long term. To help the City implement the CARP measures, the TAP recommends that CARP governance be managed by a leadership board and informed by the continuance of the Climate Ready Working Group originally formed to support the CARP.

CARP Leadership Board. The Leadership Board would be comprised of the City Manager or designated alternative, key department directors as determined by the Working Group, and lead CARP staff from the Energy Department (ED). The purpose of this board is to streamline decision-making, improve resource allocation and efficiency, and ensure alignment of efforts across City departments. Quarterly meetings can help ensure that everyone remains engaged with the broad spectrum of work. The establishment of this body will also help ensure that when strategic guidance is needed, those implementing the CARP measures can get answers and direction quickly.

Climate Ready Working Group. This cross-departmental collaboration set a strong foundation for the development of the CARP, and their work should continue. The working group should include staff leads for each implementing department as well as the CARP lead staff (ED). The purpose of this team is to build upon the working group established for CARP development to support the implementation and coordination of the measures. Meeting cadence could be at least quarterly, but may best be left to the working group's discretion.

Implementing Measure 1: Site- and System-Specific Vulnerability Studies

One of the questions posed to the TAP requested additional research and studies and/or best practices that could be explored or completed to support the implementation of CARP Measure 1: Site- and System-Specific Vulnerability Studies. **While this measure zeros in on mobile home parks, City facilities, and water systems, the TAP**

City of San José Climate Adaptation and Resilience Plan

Regional Wastewater Facility Vulnerability to Climate Hazards in 2050 and 2100, High Emissions Scenario

Asset Type	Timeframe		Extreme Heat	Riverine Flooding*		Sea Level Rise		Sea Level Rise + 100-Year Storm Surge		Wildfire
				100-year flood	500-year flood	Likely 2050: 1 ft 2100: 2 ft	Worst-Case 2050: 3 ft 2100: 7 ft	Likely 2050: 1 ft SLR + 4.5 ft 2100: 2 ft SLR + 3.5 ft	Worst-Case 2050: 3 ft SLR + 4 ft 2100: 7 ft SLR + 4 ft	
Regional Wastewater Facility Total: 783 acres	2050	Acres	None	563	762	None	None	39	38	None
		% of total	0%	72%	97%	0%	0%	5%	5%	0%
	2100	Acres	None	563	762	9	142	142	752	None
		% of total	0%	72%	97%	1%	18%	18%	96%	0%

CITY OF SAN JOSÉ

The above table, taken from the 2025 City of San José Climate Vulnerability Assessment, depicts critical projections and related potential vulnerabilities of the regional wastewater treatment facility.

believes that by taking a system-wide view of the City's vulnerabilities, a prioritization framework can be established to more effectively guide resource allocation. A strong example of this is the 2025 City of San Jose Climate Vulnerability Assessment where critical projections and related potential vulnerability's of the regional wastewater treatment facility are called out.

Establish a prioritization framework. A broad framework spanning City facilities and infrastructure can help all parties begin to align strategic investments and understand where and how staffing and funding resources should be applied first. The framework can also improve transparency and accountability within City departments and with the broader public, and ensure that the City continues to center equity in its work by making it a prioritization factor. The framework will also help the City maximize risk reduction and return on investment, and should support the case for proactive investments that can deepen resilience in particularly vulnerable areas. Ideally, this framework's creation will be an easily repeatable process that aligns with the City's other annual cycles.

The following categories and associated questions can help the City establish a draft framework that will drill down into the critical factors and potential impacts of each priority.

- **Policy priorities.** This category provides an excellent opportunity to enhance alignment with the City's other critical priorities, such as housing, community development, and others. By specifically identifying these alignments and assigning them weights in the calculations, the City can help ensure that investments across departments deliver maximum benefits, including resilience.
- **Risk reduction.** Does the project reduce risk to critical infrastructure? This could include factors such as avoided damages and potential service disruptions.
- **Asset criticality.** What is the required emergency response? How might the community be affected by the failure of this asset?
- **Readiness and feasibility.** Factors such as design readiness, permitting, and funding leverage can also provide priority guidance and help identify impactful projects that are ready to go.
- **Co-benefits.** Are there additional public health, recreation, or innovation benefits accrued through this investment? How do these align with broader climate mitigation goals?
- **Equity and community benefit.** What are the benefits to disadvantaged or climate-vulnerable populations? How can this priority reduce disproportionate impacts on the community?
- **Cost-effectiveness.** What is the potential ratio of benefits to costs related to this investment? What are the anticipated lifecycle savings of the improvement, which should also consider the avoidance of future repairs?

When using the framework, categories should have weighted scores based on their associated priorities, and projects can then be ranked by their scores. This work can be folded into the City's existing capital improvement plan prioritization process as an update, without requiring a separate process. This integration can help ensure that resilience is folded into existing processes as a general matter of course.

Planning in a Polycrisis

The City has recognized the need to plan for climate mitigation and resilience. It has also recognized the community's need for more housing opportunities and particularly more deeply affordable housing options. In a polycrisis environment such as this, some may view these priorities as points of decision, requiring one to be prioritized over another, **the TAP recognized the opportunity to identify and align efforts on actions the City can take that will advance both priorities with overlapping benefits**. To select one priority over another is to ignore these overlapping and often compounding effects to the detriment of the community. For example, the City can both promote housing affordability and facilitate individual resilience by providing incentives to developments that deliver housing units for lower income residents that are built with redundant power systems and landscaped using wildlife urban interface (WUI) principles. Other dual-benefit initiatives could include new affordable housing developments that feature a community center that also acts as a cooling center and resilience hub.

Implementing Measure 2: Climate Resilience and Adaptation Funding

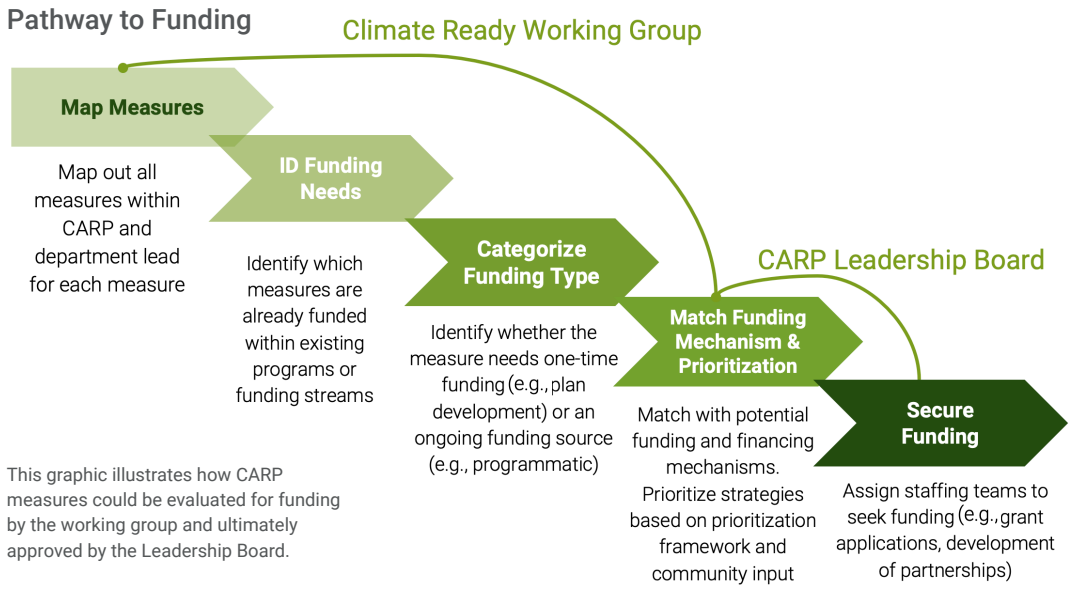
With limited funding and resources, the TAP considered pathways for the City to identify which assets to prioritize for resilience investments. With guidance from the Climate Ready Working Group, particularly on items 1–4 below, the CARP Leadership Board will be better equipped to determine which actions should be funded first, as encapsulated in items five and six below.

Climate Ready Working Group tasks. The working group should be put in charge of the following early steps, which can then be incorporated into a proposal for the CARP Leadership Board's approval, modification, and assignment of staffing.

1. **Align measures with departments.** The CARP's measures should be mapped across the City's departments, noting department leads for each measure.
2. **Identify funding needs.** Identify which measures are already funded within existing programs or funding streams.
3. **Categorize funding type.** Identify whether the measure needs one-time funding (e.g., plan development) or an ongoing funding source (e.g., annual programming or new staff support).

CARP Leadership Board. With the above information in hand, the Leadership Board can review the measures, match existing or pursue needed funding, and staff the work.

4. **Match funding mechanisms.** The measures should be matched with potential new and/or existing funding and financing mechanisms.
5. **Secure funding**. Assign staffing teams to pursue funding through grant applications, development of partnerships, and more.



This graphic illustrates how CARP measures could be evaluated for funding by the working group and ultimately approved by the Leadership Board.

Climate Adaptation Funding Options

In considering funding mechanisms to support CARP implementation, the panel considered a range of options:

- **Taxes.** New tax measures typically come through a ballot measure and require community support. These could include special district taxes, tax increments, and taxes on property, sales, gas, insurance, carbon, or tourism.
- **Fees.** Fees can be assessed to support CARP implementation and could include stormwater, development impact, utility rate-payer, or other user-related fees.
- **Grants.** While federal grant funding may currently be limited, state-level grants for adaptation work may be available.
  - » California Wildlife Conservation Board supports projects that protect or restore biodiversity, provide climate change action, and/or expand public access to nature. Additional State-level priorities include expanding nature-based climate solutions and conserving 30 percent of California's lands and coastal waters by 2030.
  - » California Department of Fish and Wildlife's Watershed Restoration Grants fund restoration of ecological function and conservation. Grant

programs include restoration programs funded through bonds, the Fisheries Restoration Grant Program, nature-based solutions, and water and habitat restoration and resilience.

» California Energy Commission's Building Initiative for Low Emission Development Program provides incentives and no-cost technical assistance to develop new all-electric, low-income residential buildings that reduce California's GHG emissions.

» California State Coastal Conservancy provides funding for projects that restore and protect the California coast, San Francisco Bay, and coastal watersheds to increase the availability of beaches, parks, and trails for the public, protect and restore natural lands and wildlife habitat, preserve working lands, and increase community resilience to the impacts of climate change.

» State Water Resources Control Board: Drinking Water Grants and Prop 1 Grants provide loan and grant funding for construction of drinking water treatment and distribution systems, municipal sewage conveyance and treatment systems, water recycling facilities, drought support for individual households, and more.

» Land Use and Climate Innovation: Extreme Heat and Community Resilience Program funds and supports local, regional, and tribal efforts to reduce the impacts of extreme heat, such as creating extreme heat action plans, providing mechanical or natural shade, increasing building and surface reflectance, and more.

» Strategic Growth Council Transformative Climate Communities empowers the communities most impacted by pollution to choose their own goals, strategies, and projects to reduce greenhouse gas emissions and local air pollution by funding community-led projects, such as energy efficiency upgrades, solar installation, urban greening, community microgrids, and more.

» California Natural Resources Agency Urban Greening Grants fund projects using nature-based solutions to mitigate climate change impacts, such as the urban heat island effect, rising temperatures, and extreme heat.

- **Philanthropic Partnerships.** Philanthropy and corporate grants or sponsorships may be available to assist the City with CARP initiatives. By identifying key measures well-suited for philanthropic partnerships, the City could be particularly strategic in its partnership and sponsorship pursuits. A community resilience hub, for example, might be an excellent sponsorship opportunity for a like-minded, community-oriented San José philanthropy.
- **Other funding options.** Other funding sources for adaptation efforts could include a climate superfund, cap and trade, and other credit trading, and payments for ecosystem services. For larger capital projects, the City may need to pursue more traditional lending mechanisms like market-rate loans, subsidized loans, flexible lending vehicles, or revolving loan funds. Bonds, including general obligation bonds, environmental impact bonds, and green bonds, might also prove helpful for large projects. Risk transfer options could include catastrophe bonds, parametric insurance, or insurance endorsements. And finally, equity financing, in the form of venture capital, private equity, or crowdfunding, could possibly assist.

Case Study

Portland, Oregon

A citizen-led ballot measure created Portland's first Climate and Environmental Justice fund in 2018. This one percent surcharge on large retailers generates approximately $90 million in revenue annually. In addition to supporting clean energy, energy efficiency, climate resilience, and workforce development, the fund also bolsters community grants, the city's climate investment plan, and transportation and mobility projects in the community, with project prioritization going to low-income communities and communities of color. Ongoing community input is built into the fund and its operation through the Portland Clean Energy Benefits Fund Climate Investment Plan. Read more.

Case Study

San Diego, California: Infrastructure Priorities Engagement

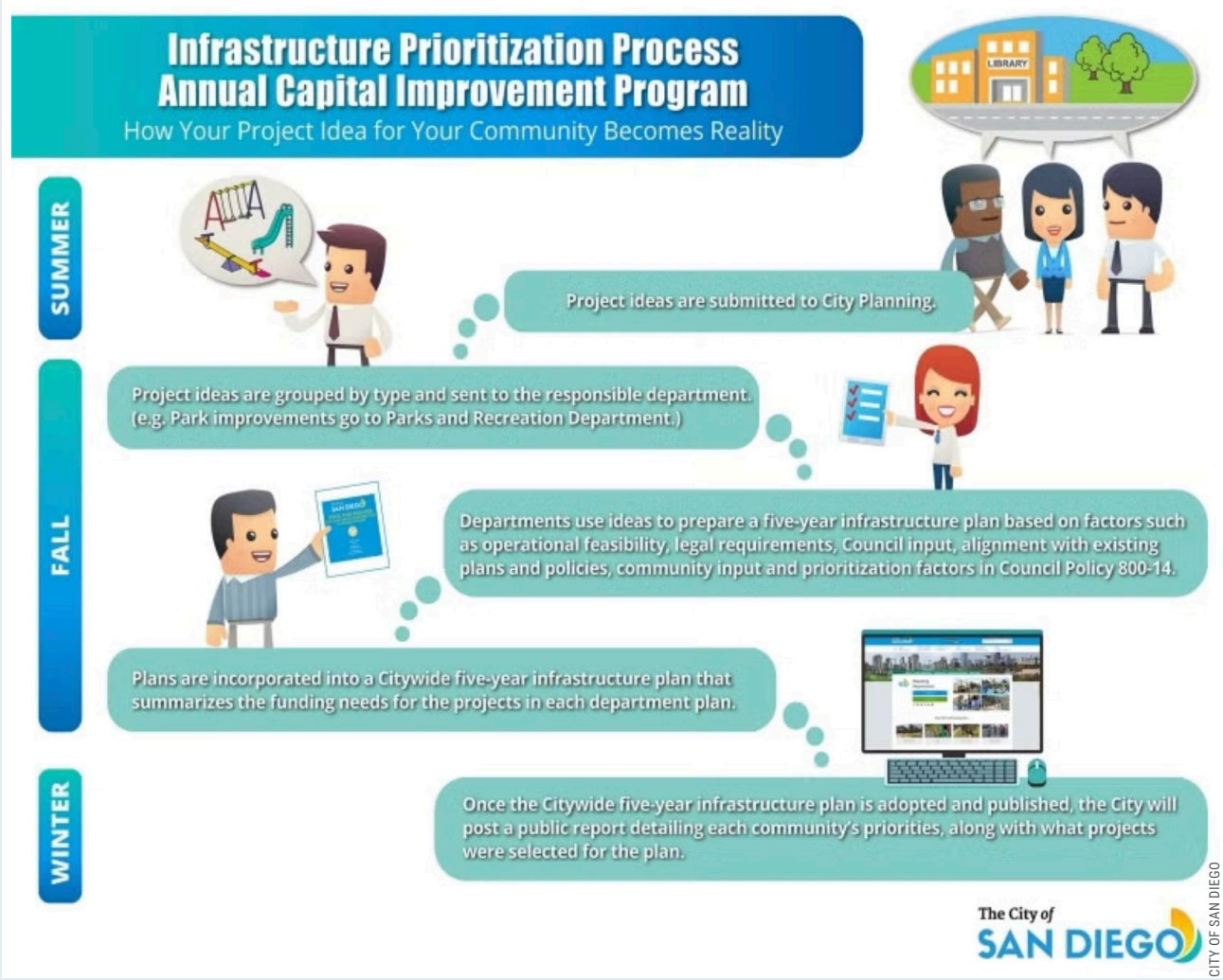
In 2024, the City of San Diego passed two Council priorities that have shifted the way the local government prioritizes its infrastructure projects and how it brings community members into the process.

The City's infrastructure prioritization now includes metrics and scoring factors for both climate and equity. Projects that are going to be implemented in the city's communities of concern have a measurable impact on these lower-resourced neighborhoods. Projects that align with the City's climate action plan and climate resilience plan and have an anticipated meaningful outcome move to the front of the line, receiving bonus points in the scoring process.

The City also has an infrastructure prioritization engagement process through which community members can submit projects they want to see in their neighborhoods. Submitted projects are forwarded to the implementing department for inclusion in their five-year infrastructure plans. Consideration is given for operational feasibility, legal requirements, Council input, and alignment with existing plans and policies.

Not only does this process deliver projects the communities want to see, but it is also strong evidence that community input matters.

Read more.



This City of San Diego infographic helps community members understand how a community-led project idea moves through municipal approval processes to become a formal piece of the city's five-year infrastructure plan.

Design Standards

The City has identified the important role it plays in ensuring that City-owned assets and buildings are designed and built with resilience in mind. To support this pursuit, CARP Measure 9 seeks to update design standards for publicly-owned buildings, and the City asked the TAP for guidance in governance and policy practices that could best support resilient design.

Ideally, once the Governance structure, prioritization framework and funding options are established as per the previous section, the development of design standards applicable across key city infrastructure will be critical to advancing the work. This work can also occur simultaneously with those components depending upon the City's capacity and timing.

The TAP evaluated Measure 9 to support the development of best practices and strategies to establish risk evaluation and design standards.

Core objectives. The measure includes a number of core objectives:

- Ensure city projects will be prepared for future climate change.
- Translate future-looking climate change projections into technical guidance for City agencies to use in the design of public projects.
- Protect public investment and minimize operational disruptions.
- Integrate nature-based design solutions.

> "The importance of this work is to plan long range, not address crisis after crisis in a reactive way."
>
> —INTERVIEWEE

- Develop and deploy resilient emergency operations.

Core values. Across the entire CARP document, the public-value commitments are clear: Make resilience mandatory, measurable, and iterative, with regular evaluation that informs adjustments and course corrections along the way. These values include the following.

- Embed standards in how projects are scoped, designed, and funded.
- Treat resilient design as core infrastructure governance.
- Leverage community co-benefits through nature-based solutions.
- Design for vulnerable communities, ensuring reliable access to critical services.

While Measure 9 is focused on public assets—city streets, parks, buildings, and civil infrastructure—the commitment to the City's values is critical to facilitating equitable development that supports all of San José, including the general public, private development, housing, and vulnerable residents.

Use a Resilient Design Process

To begin meeting the City's resilience goals and implementing Measure 9, the TAP recommends that the process start by developing a resilient design approach that translates CARP's insights into action and into developmental policies that can be instituted across San José. Although the City has already undertaken some of these steps (e.g., steps 2-4 below), the targeted nature of the actions relating to a resilient design process bears noting here.

1. **Develop the project scope.** Information is collected on the project type, anticipated useful life, community criticality, operational goals, expected location, and budget.
2. **Analyze hazards.** Resilience factors should be established for the project site, and concerns, impacts, and exposure should be identified.
3. **Analyze vulnerabilities, risks, and conduct a cost-benefit analysis.** The property's vulnerability to hazards should be assessed and a risk hierarchy established. At this point in the process, the investment benefits should also be identified.

4. **Identify risk mitigation and adaptation strategies.** A comprehensive strategy should be prepared, addressing key concerns and right-sizing the risk-mitigation and adaptation approach.

5. **Implementation and adaptation.** This last stage is marked by normalizing strategies, embedding performance criteria, phasing, and funding into a practical, long-term resilience roadmap and system. A long-term implementation plan, based on risk and funding availability, should also be developed and implemented. Adaptation and revision remain constant throughout, ensuring that the work is proactive where possible and responsive to the changing environment. This step also provides an ideal check in opportunity with the CARP Leadership Board for support, alignment, and funding.

Process Credit: HOK

Conduct a Hazard Assessment and Vulnerability Risk Assessment

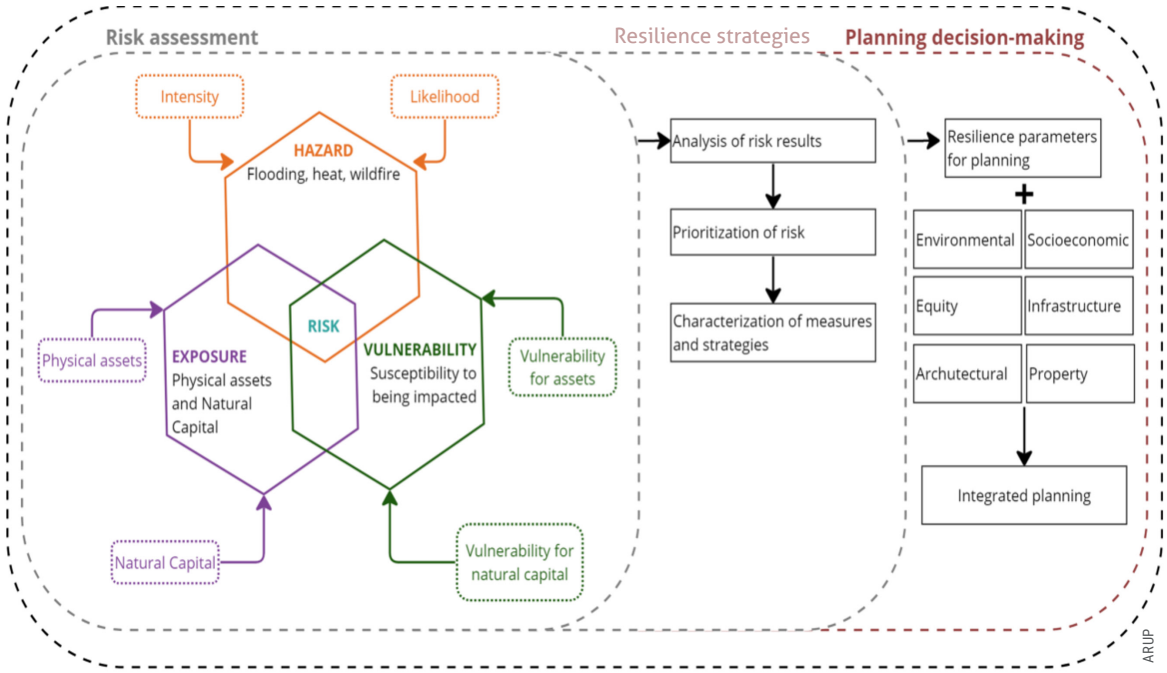
The City of San José has been hard at work strengthening resilience across City systems and assets and identifying ways the public sector can support the resilience of individual residents and broader neighborhoods. The existing San José Vulnerability Assessment provided the TAP with a foundation for turning exposure and vulnerability into measurable, evaluable, and eventually mitigatable risk. This shifts resilience efforts from baseline identification of "what" vulnerabilities and "where" to an actionable discussion of "how much" and "by when?"

Measuring risk allows City leaders and staff to examine key metrics, such as direct damages, indirect financial and economic impacts, and disruption/downtime, to better understand the full scope of potential impacts on the community. This underpins any assessment of resilience strategies and helps inform and drive better decision-making.

Use a risk assessment framework to inform decision making. Using a risk assessment framework, such as the one shown on this page, the City can compare the likelihood of failure with its consequences, thereby characterizing the severity of risk across a broader matrix. With this information, the highest-risk items can be prioritized for mitigation, while lower-risk items become lower priorities. Using a consistent methodology also helps inform and drive decision-making across a range of assets, moving towards a lower-risk environment, lowering investment costs, and avoiding losses.

Leverage a risk matrix to understand potential downtime. Similarly, a risk matrix like the one on the following page can help the City anticipate the potential downtime

Resilience-based Decision Making Framework



Using a decision making framework that incorporates resilience at every step can help the City better assess risks and produce mitigation efforts that will protect community members and physical assets.

Risk Matrix: Event Likelihood and Downtime Consequences

Likelihood [Return period]	Consequence [Downtime]				
	< 1 hour *(Negligible)*	1 hour – 1 day *(Minor)*	1 day – 1 week *(Significant / Moderate)*	1 week – 1 month *(Major)*	> 1 month *(Severe / Catastrophic)*
< 11 years *(99% - 100% in 50 years)*	Low-Medium	Medium-High	High-Very High	Extremely High	Extremely High
11 - 22 years *(90% - 99% in 50 years)*	Low	Medium	High	Very High	Extremely High
22 - 46 years *(66% - 90% in 50 years)*	Very Low	Low-Medium	Medium-High	High-Very High	Very High
46 - 125 years *(33% - 66% in 50 years)*	Very Low	Low	Medium	High	High-Very High
125 - 224 years *(20% - 33% in 50 years)*	Very Low	Very Low	Low-Medium	Medium-High	High
224 - 391 years *(12% - 20% in 50 years)*	Very Low	Very Low	Low	Medium	Medium-High
391 - 808 years *(6% - 12% in 50 years)*	Very Low	Very Low	Very Low	Low-Medium	Medium
808 - 1,642 years *(3% - 6% in 50 years)*	Very Low	Very Low	Very Low	Low	Low-Medium
1,642 - 3,308 years *(1.5% - 3% in 50 years)*	Very Low	Very Low	Very Low	Very Low	Low
> 3,308 years *(0% - 1.5% in 50 years)*	Very Low	Very Low	Very Low	Very Low	Very Low

ARUP, CITY OF REDWOOD CITY

A risk matrix that charts the potential likelihood of an event with the potential consequences of that event, in this instance potential downtime, can create a powerful tool for project prioritization.

associated with variable risks. Seeing how risks can increase over time allows the City to evaluate which mitigation strategies to prioritize and when. Once risks are quantified, mitigations can be right-sized to fit the need to de-risk. Setting priority interventions early can help reduce losses down the road.

Develop Design Standards

Leveraging a deep analytical process is important in decision-making. By tracking data at this deeper level, the City is able to convert data into standards and solutions that are actionable, sized appropriately for the risk, and aligned with the potential risk intensity.

Define the risk. Given the data pointing to potential risks, those risks should be translated into clear problem statements that identify what must be protected, from which hazards, and over what time horizon.

Identify and compare adaptation options. The City can then identify and compare adaptation options to develop a range of structural, nature-based, operational, and policy strategies that match the level of risk and asset criticality.

Right-size interventions. Strategy intensity should suit potential risk magnitude by aligning solutions with projected conditions and asset lifespan.

Evaluate benefits and tradeoffs. Finally, the City will need to assess the lifecycle costs, avoided losses, co-benefits, equity impacts, and flexibility to inform the cost-benefit analysis and real-world adoption.

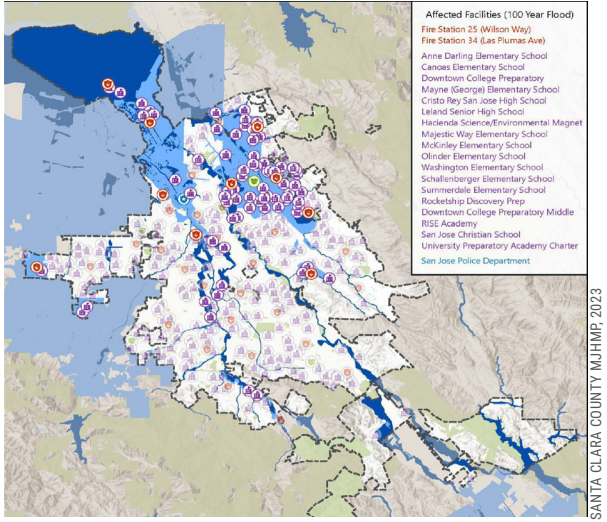
The information gathered during the TAP's interview process confirmed the following critical vulnerabilities for San José: stormwater management and sea level rise, wildfire and smoke risk, extreme heat, and emergency operations continuity.

Risk: Sea Level Rise and Stormwater Management

Resilience risk. Sea level rise will degrade the performance of drainage systems near the Bay, and drainage systems will fail without edge hardening and additional pumping. Early flooding is already impacting some low-lying communities and affecting mobile home parks in the city.

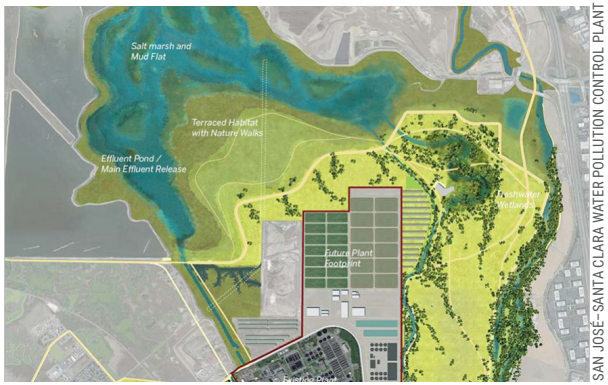
Design standard needs. Future-focused design standards are needed for outfalls, pump stations, and for managing sedimentation tied to distinct trigger points such as high water levels.

Interdepartmental opportunities. A shared definition of risk between the City and external stakeholders will strengthen accountability and guide action. Better alignment is required between the



SANTA CLARA COUNTY MJHMP, 2023

The city's critical facilities that are positioned in flood zones are noted on this County map.



SAN JOSÉ–SANTA CLARA WATER POLLUTION CONTROL PLANT

The San José-Santa Clara Regional Wastewater Facility Master Plan depicts its nature-based, green infrastructure mechanisms for managing sea level rise.

RIC-MAN CONSTRUCTION FLORIDA, INC.

This Miami, Florida, pump station is a good example of grey infrastructure for sea level rise management.

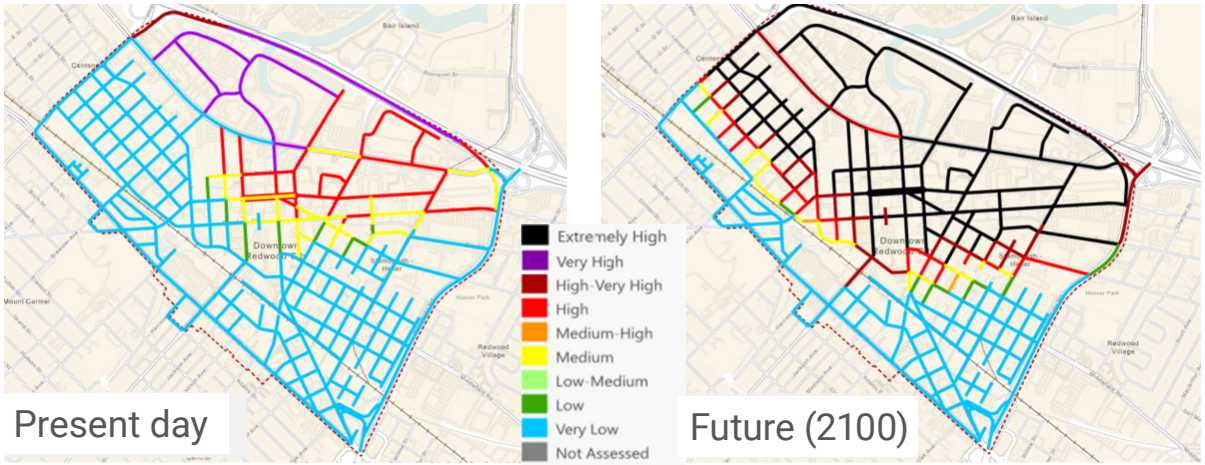
City's planning, stormwater, and water agencies, using the shared watershed and social-vulnerability maps to guide action.

Recommended design standards for sea level rise. San José's existing approach to sea level rise leverages a combination of nature-based and built solutions to reduce risk. Green infrastructure and nature-based solutions—like wetlands, sloughs, and natural hydrology systems—serve as the first line of defense, absorbing water and providing environmental benefits. Improving critical facilities with targeted grey infrastructure for added protection, such as pump upgrades, can create a balanced strategy that delivers reliable protection today while adapting to future sea levels.

Recommended design standards for stormwater. Stormwater standards should similarly leverage green and grey infrastructure to manage runoff and reduce flooding. Green infrastructure, such as green roofs and landscaped areas, should be prioritized to slow and absorb water where it falls. Where additional capacity is needed, targeted grey infrastructure should be added, including cisterns and underground storage. These integrated approaches improve reliability today while preparing for heavier storms in the future.

Realistically, the majority of sites will not have either the requisite area or budget for an exclusively green or grey infrastructure approach. Where site and budget constraints arise, a hybrid solution can pair both green and grey systems across a gradient. This layered approach can manage present-day stormwater more effectively and can still

Risk of Road Downtime Due to Coastal Flooding



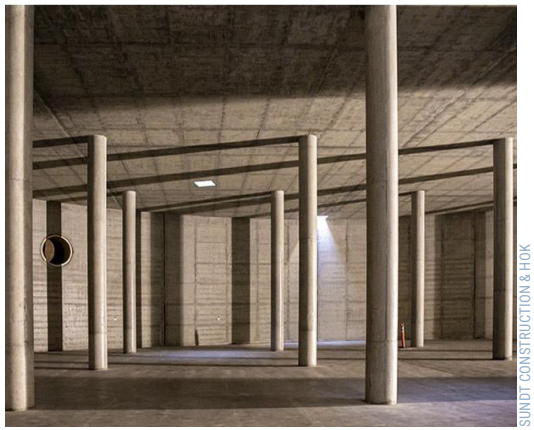
ARUP, CITY OF REDWOOD CITY

Risk data projected onto maps depicting potential downtime can also be particularly impactful, demonstrating, in the above case, which roads can expect to be closed due to a coastal flooding event.

adapt to more intense rainfall in the future. An integrated hybrid strategy is particularly important for San José, as the City focuses on reducing flood risk in low-lying areas by restoring floodplains, improving conveyance, and coordinating upstream-to-downstream resilience.

HOK, COURTESY OF CHRIS PAYNE

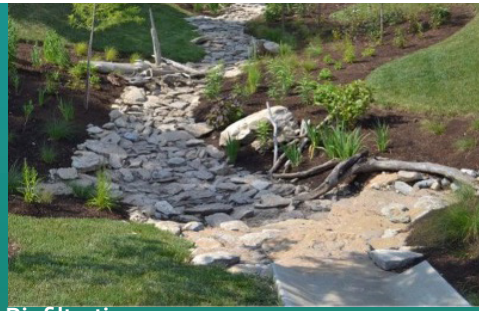
This U.S. Coast Guard Headquarters building and campus uses nature-based solutions for managing stormwater.



SUNDT CONSTRUCTION & HOK

The San Diego International Airport uses grey infrastructure in the form of this stormwater containment cistern to manage stormwater on the airport grounds.

HYBRID IMPLEMENTATION APPROACH



Biofiltration

Centralized Management

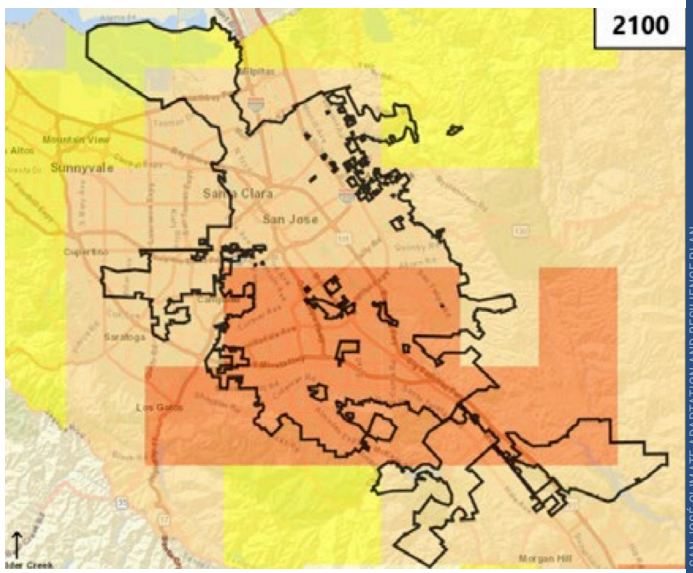
Infiltration Gallery

Wastewater Treatment Plant

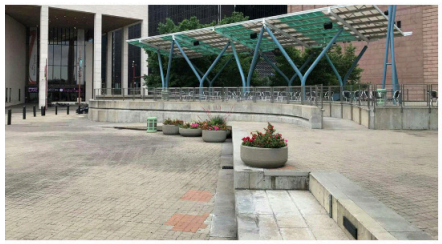
Risk: Extreme Heat

Resilience risk. The urban heat island (UHI) effect poses risks to human health, can overload the power grid, and can lead to rolling blackouts.

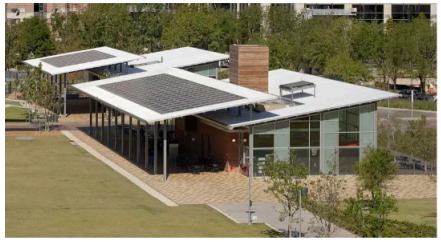
Design standard needs. Urban forestry and tree canopy measures are often treated as afterthoughts. Better outcomes, including safer communities and stronger power grids, can result when shade and tree standards are embedded into a city's general plan. The City aims to achieve 20 percent canopy cover by 2051. Local neighborhood targets identified through the Tree Equity Score and local neighborhood partnerships, such as



This Silicon Valley 2.0 Climate Change Preparedness Tool depicts the anticipated annual maximum temperature by the year 2100 under a high emissions scenario.



Sun and No Breeze



Shade and No Breeze

Shade and Breeze

90°F

85°F

80°F

those available through Climate Resilience Communities adaptation projects, can assist in implementation.

Interdepartmental opportunities. Designating an urban forestry interdepartmental liaison can help shift the culture, placing trees on par with roads and utilities as infrastructure. Positioning trees and shade as "public infrastructure" helps support public health and climate resilience.

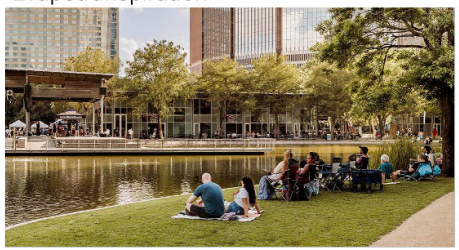
Recommended design standards for mitigating extreme heat. Extreme heat mitigation focuses on the creation of cool, connected places that protect people and strengthen public life. San José can reduce heat exposure through physical shade, expanded urban forestry, and thoughtful placemaking that combines trees, shade structures, water, and airflow. By designing streets, parks, and civic spaces to support cooling and year-round use, the City can lower ambient temperatures, improve personal comfort, and create healthier, more resilient spaces during extreme heat events—all while enhancing daily life and civic engagement.

Risk: Wildfire and Smoke Risk

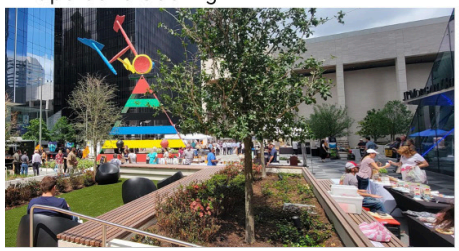
Resilience risk. As wildfires encroach into developed areas, nearby communities are facing much higher toxic smoke exposure as buildings burn. This increased exposure is driving serious respiratory illness and cancer risk, particularly with firefighters and other first responders.

Design standard needs. There is a need for clear standards around clean-air basecamps, better filtration, and a science-based vegetation management strategy

Evapotranspiration



Evaporative Cooling



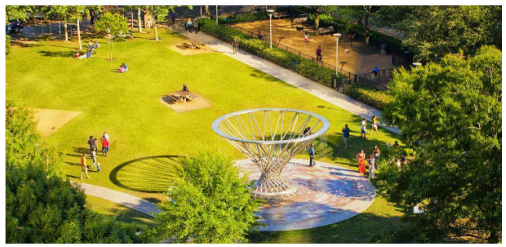
Placemaking

80°F

75°F

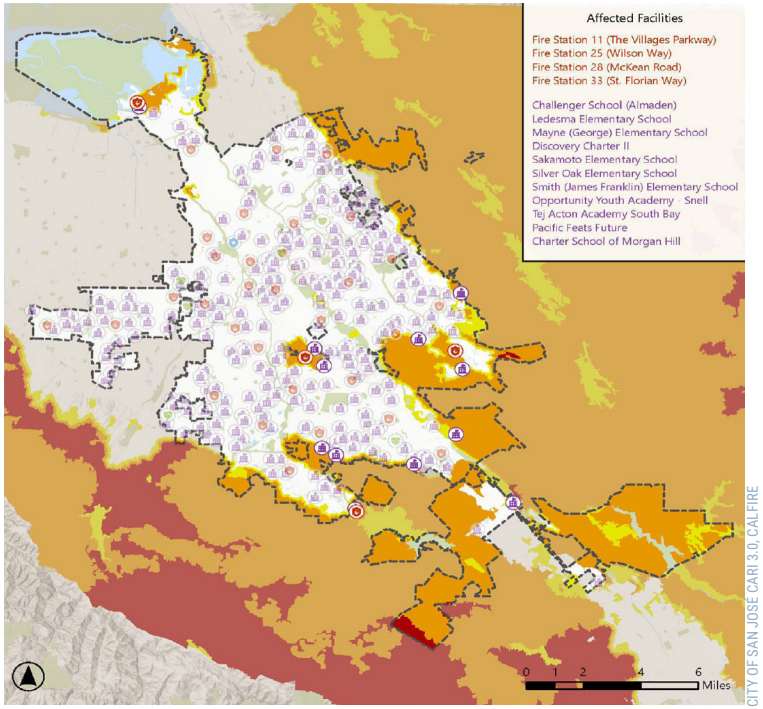
70°F

Summer Garden



Spring & Autumn Garden

Winter Garden



This CAL FIRE mapping tool depicts the location of critical city facilities in relation to fire hazard severity.

that specifies when and where to cut and how to create zone-based edge hardening.

Interdepartmental opportunities. There is already strong collaboration between the Santa Clara County FireSafe Council and the City's relevant departments—Fire; Parks, Recreation & Neighborhood Services; and Public Works. There is, however, a significant gap as San José currently lacks a citywide, coordinated vegetation management plan.

Recommended design standards for wildfire and smoke risk. Design standards for wildfire and smoke require diverse levels of design standards, operational protocols, and supporting infrastructure and communication services, all scaled to potential risk.

- **Vegetation management.** San José has robust vegetation management standards, yet there is a need for increased coordination between public intervention and private development. Planning, design, construction, and landscape standards may be developed based on the level of risk, while careful consideration should include financial equity to provide resilience without creating a financial burden.
- **Basecamp infrastructure.** Firefighting protocols and healthcare services are critical to ensuring that frontline workers can maintain their immediate and long-term health while exposed to stressful and harmful hazards. An immediate action could be deploying wildfire basecamp infrastructure to provide filtered air and cool habitats for firefighters and evacuees.
- **Community refuge centers.** There is a complementary opportunity to improve building resilience across schools, libraries, and civic centers to serve as cooling and clear-air centers and provide refuge during emergency events. Fire communication services

Vegetation Management (Before & During Events)

Planning, Design, Construction, Landscape Standards

Firefighter Protocols, PPE & Healthcare Services

Wildfire Basecamp Infrastructure

are developing that allow the public to understand both where and when to relocate to a refuge or evacuate.

Risk: EV Fleet Infrastructure (Emergency Operations)

Resilience risk. The City's current resilience plan is high-level and voluntary, leaving transportation and fleet teams without clear direction or readiness for emergencies.

Design standard needs. There is a need for mandated standards for EV-ready fleets, charging and expansion, fleet expansion, and a response operations plan.

Interdepartmental opportunities. While collaboration already exists, implementation has stalled. Success requires clear direction from leadership and early alignment between departments.

Additional risks associated with EV charging during high-water events. There are established methods for using permeable paving and infiltration chambers to keep vehicles above the flood line, and specialized flood-resilient PV, battery, and charging infrastructure will play a key role. Beyond localized infrastructure, city-scale generation and storage outside flood zones can support the creation of microgrids to enable emergency operations while also reducing peak load through reverse charging on non-emergency days. This energy infrastructure enables the expansion of EV fleets for emergency response, fire and rescue, and transit, reducing emissions while improving operational reliability. Together, these investments strengthen grid independence, support rapid response, and accelerate the transition to a clean, resilient transportation system every day.

EV Charging Infrastructure (Flood Resilient)

Renewable Energy + Battery Storage + Microgrid

EV Fleet Expansion - Emergency Response EVs

Transit EVs

Fire/Rescue Services EVs

Equitable and Effective Structures and Governance

The City also tasked the TAP with providing recommendations to help ensure equity is at the forefront of considerations in the CARP implementation, particularly in supporting implementation of Measure 13. This measure focuses on community-serving facilities and resilience hubs, upgrading community-serving municipal facilities to ensure functionality during climate hazard events and establishing accessible resilience hubs across the city. This work should be prioritized and supported by the proposed governance structure and then guided by the Resilience Design Process for consistency and alignment with City departments and efforts.

The TAP evaluated this measure and developed its recommendations with three primary values in mind:

- Equity. Prioritize action where the need is greatest.
- Efficiency. Boost resilience capacity by aligning existing resource investments with goals.
- Expansion. Build broad relationships with potential partners to maximize impact and accelerate the timeline.

The City is ONE partner in a broader resilience ecosystem. Resilience is not something the City can achieve alone. It requires a co-governed ecosystem of partners who bring complementary strengths and resources and who can build trust and relationships that make implementation work better, faster, and more effectively. **The City is operating in an environment where people feel understaffed and overburdened. At the same time, there are partners, resources, and opportunities that have yet to be activated.** This is where there is real promise for exciting progress.

> "Public service is relationship building."
>
> —INTERVIEWEE

Roles and Ecosystem Contributions

To address equity and utilize the strengths of each contributor, the TAP recommended a co-governance approach to the city's resilience efforts. This approach asks that the City align its authority and resources with the community to share decision-making responsibility, maintain accountability, and deliver real, tangible change. Effective resilience requires a co-governed ecosystem, a network of partners who bring complementary strengths and resources and who can build trust and relationships that make implementation actually work. There are a multitude of contributors to resilience across San José. The ecosystem is big and expansive, yet each entity has a specialty and role to play—it is just a matter of understanding each player's unique contribution and how they can contribute that unique perspective to the best of their abilities.

At its core, the TAP identified four entities that have important roles to play in the city's resilience efforts—the City, the community, businesses, and regional entities. The City of San José represents a formal resilience authority that can provide coordination and resources. Regional entities, like ULI, play important roles in aligning policies, providing funding, and providing technical expertise. The community is where trust, lived experience, local networks, and local assets are best understood, nurtured, and grown. Businesses can provide critical capital, innovation, speed, and help with scaling efforts.

In addition to core entities, there are areas where efforts and entities overlap, offering opportunities to gain efficiencies and strengthen outcomes through joint efforts.

- City and regional entities often interface through the work of regional think tanks, governance bodies, academic institutions, and community foundations.
- Community benefits organizations, resident-led groups, and mutual aid networks often sit in the spaces where community and local government overlap.
- Business and the City meld efforts within membership organizations, small businesses, and Chamber of Commerce

work. Opportunity lies in exploring and deepening these roles and areas of collaboration.

The City of San José

The City's role in the ecosystem is to provide leadership through vision, priorities, and accountability. The City should also consider itself a catalyst of change and a connector of partners in the work. The City should set and track the key resilience metrics and identify and share decision-making power with communities.

Seek near-term wins. Early in the implementation work, the City has the opportunity to deliver tangible wins that can keep interest and momentum going. These early wins can include:

- Streamlining bureaucracy.
- Establishing an empowered internal lead and cross-department alignment.
- Leveraging technical assistance.
- Supporting and resourcing partners.

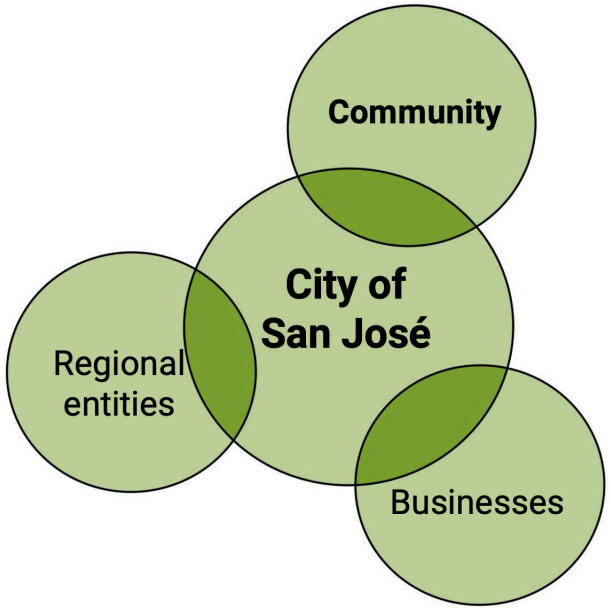
Pursue long-term improvements. In the longer term, additional key points of progress could include:

- Creating an adaptable model for tangible adaptation implementation.
- Building a coordinated, citywide resilience ecosystem.
- Scaling and replicating successes.

The Role of the Community

The community is an incredible asset and resource for the city. In the interviews, the TAP heard that the city is not suffering from a lack of data; rather, the question is how the data is put to work. The community knows what the problems are, and, if asked for solutions, they will share with great specificity. The challenge is to build the trusting relationships needed to advance the work and to continue to show up with a spirit of collaboration.

The community plays a critical role in identifying neighborhood elements that are critical to protect, local resources that could be developed further, and resilience needs that may not be readily apparent. The community should also be encouraged to define its priorities and social resilience needs. Strengthened relationships with government and open and transparent communications with its partners can help ensure that the community is truly co-designing and co-managing its resilience hubs, leading the way with additional outreach, education, and programming across its geography.



Identify near-term wins. Early wins for community efforts could include:

- Identifying priority sites and existing assets.
- Assisting with or providing public education and translation services.
- Pursuing or collaborating on grant applications.
- Building momentum and trust through tangible improvements.

Pursue long-term improvements. In the longer term, the community could effectively contribute the following:

- Improving and building capacity in order to co-manage resilience hubs.
- Sustaining trust and collaboration.

Regional Entities

Across the broader region, there are entities with a particular capacity to see and understand the bigger, regional picture. Many of these same entities are positioned to share knowledge and lessons learned from San José and seek regional partnership and advocacy opportunities to help advance

work locally and regionally. Through these regional entities, the City can help ensure that the lessons learned at the local level are shared more broadly. Finally, there is an exciting opportunity to connect and consolidate resources, knowledge, and best practices with these regional entities, helping to scale impact across jurisdictions and increasing regional resilience.

Seek opportunities for near-term wins. Working together, the City and regional partners can deliver the following:

- Providing regional updates.
- Accessing and generating regional tools.
- Highlighting pilots and successes.
- Connecting local actors.

Pursue long-term improvements. Longer-term efforts could include:

- Creating visioning reports.
- Coordinating resilience systems and advocacy efforts.
- Creating consistent standards and approaches to be shared regionally.
- Scaling impact across jurisdictions.
- Sharing funding streams and reducing the potential for duplicative efforts.

The Role of the Business Community

The business community wants to partner in these efforts–they also want it to be easy to partner. Businesses are ready and willing to be partners in resilient solutions, but the solutions cannot get mired in politics, bureaucracy, or other such diversions. Specifically, businesses can provide innovative ideas and the capital to pilot them. Businesses are often more nimble than local government and able to test, refine, and relaunch ideas quickly.

> "Businesses want to be good partners. They also want it to be easy to be good partners."
>
> —INTERVIEWEE

Identify near-term wins. Early wins for the business community might include:

- Providing in-kind contributions.
- Piloting projects, such as solar installations and battery backups at community sites.
- Pursuing high-visibility partnerships, including partnerships with churches, community centers, and area schools.
- Quickly implementing projects with a clear return on investment.

Pursue long-term improvements. In the longer term, businesses may be able to provide the following benefits:

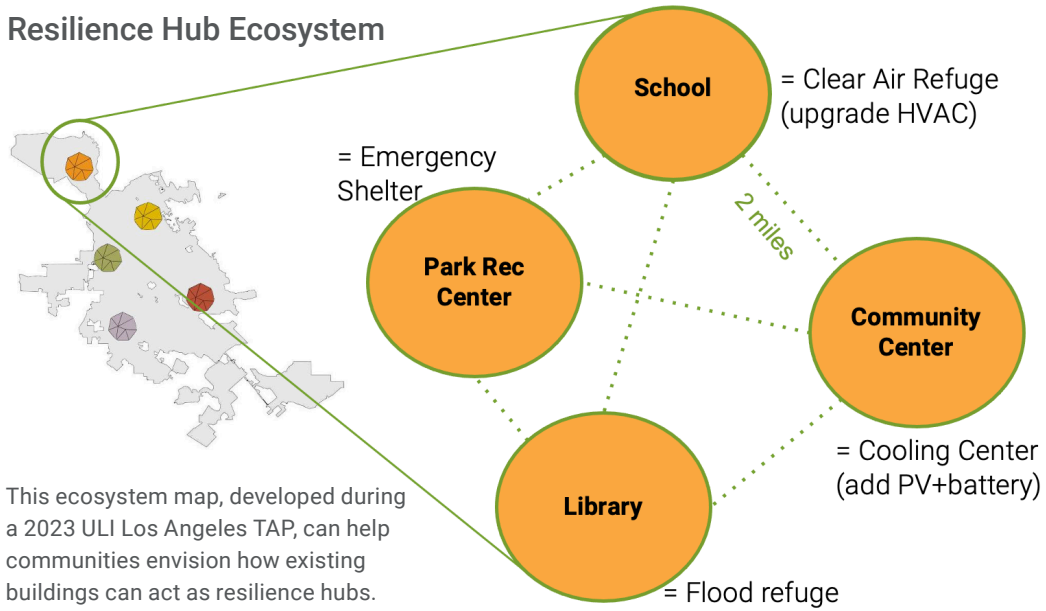
- Co-benefit investments in resilience.
- Scaled investments in resilience infrastructure.
- Sustained public-private partnerships.
- Innovation and cost reduction over time .
- Broader, sustained private sector participation.

Resilience Hub Ecosystem

Working in connection the partners in the resilience ecosystem, the City can evaluate where and how it can provide community resilience hubs as a network of interconnected resources across San José.

While initial thoughts may center on constructing a new building to serve as a community resilience hub, this requires substantial investment and time to deliver. Existing buildings within and around the community could more easily and affordably create a more robust ecosystem of resilience resources. These same buildings may already be well-known and well-loved, serving as spaces where community residents visit for resources, gather for events, and use for other programming.

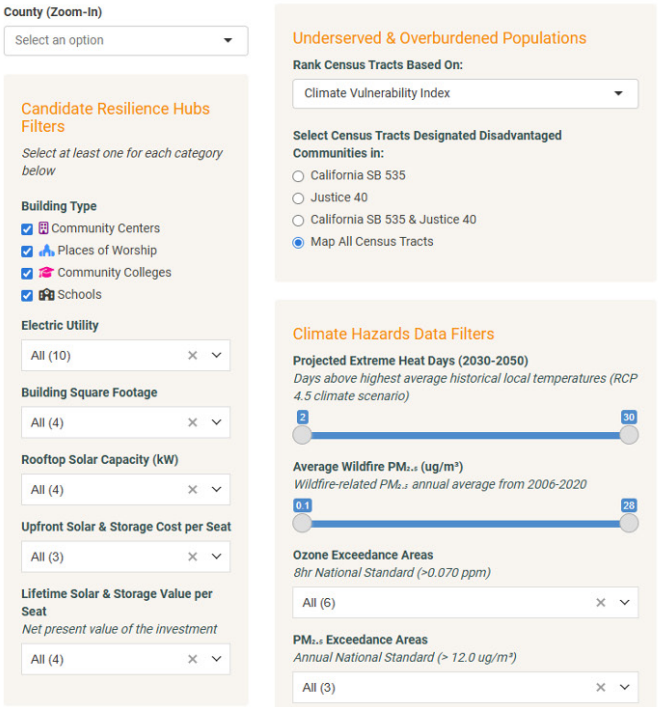
With limited improvements, existing buildings can serve the community in many ways. A community recreation center can become an emergency shelter. With an upgraded HVAC system, an elementary school can become a clean-air refuge. With the addition of PV and battery backup/storage, a community center could become a welcome cooling center. A library can become a refuge during flooding.

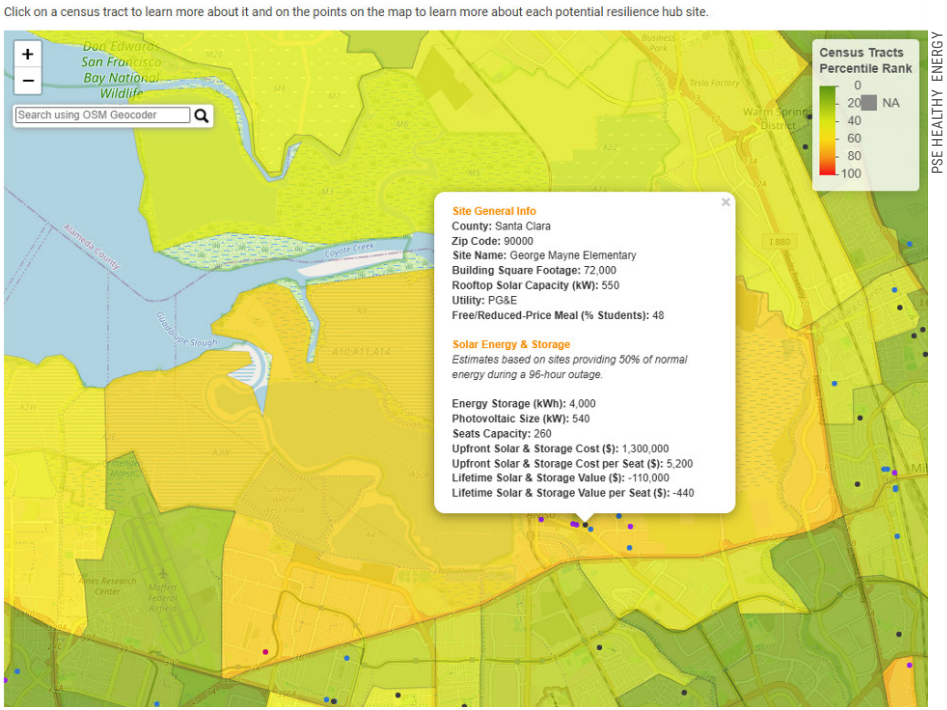


This ecosystem map, developed during a 2023 ULI Los Angeles TAP, can help communities envision how existing buildings can act as resilience hubs.

The TAP considered the steps needed to bring a new resilience hub online. More than just opening the doors to a building, there is a series of steps that can help ensure the hub provides the resources the community really needs and that they feel welcome there.

Leverage City research. The data is there, yet some of the geographic vulnerabilities may not be as intuitive as expected. San José has excellent tools in place to map and assess vulnerability, identify the level of risk, and assess existing assets. Taking a keen eye to that research, the City can review planned improvements and potential resilience enhancements and put together technical guidance and lessons learned from





This resilience hub mapping tool can help communities identify potential locations for resilience hubs based on the inventory of existing buildings and a number of key risk factors.
[Explore the tool here.]

various partnerships and regional entities to achieve a streamlined approvals process.

Co-create with the community. Co-creating a resilience hub with the community is essential to adapting a resilience model to the local community. By working with the community to co-create resilience resources and build a resilience ecosystem, the City can benefit from community knowledge and empower resident leadership, helping neighborhood residents and the broader city streamline resilience hub delivery in a replicable, scalable fashion. This work begins with resident community listening and a needs assessment, ensuring that the assessment and the city's perceptions (i.e., data) accurately reflect the community. This co-creation process also includes reviewing the assets already in place and ensuring that potential service layering contributes to the community's social resilience and delivers tangible, relevant actions that serve the community. By activating partnerships and identifying opportunities for quick wins, tangible pilots, and immediate intervention, the community can see early action and understand the broader efforts that may take more time and greater investment. Finally, co-creation relies on new and existing relationships to expand education and outreach deeper into the community, helping every resident feel welcome to use the resources at hand. As one panelist noted, "a resilience hub is only as strong as the community's awareness and confidence in that place."

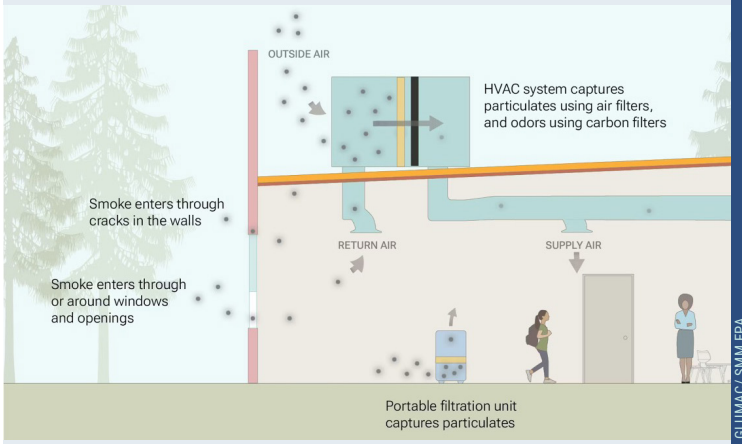
Organize and mobilize resources. Resource organization and mobilization is where the rubber meets the road. Once the mapping is complete and the community engaged, it is time to consider potential funding sources. The pipeline of upcoming capital improvement projects should be reviewed for potential needs they may already address or how their resilience might be improved. It is also important to consider the scope of any new intervention and match it with aligned efforts, ensuring efficiency and maximum funding leverage along the way. Philanthropy might play role in funding the work as could a climate superfund or a bond measure that could scale the effort across the city. Beyond those efforts, partners should be challenged to collaborate on grant opportunities and consider how business partnerships could be further leveraged to the benefit of the new resilience hub and its services.

Begin implementation. Early work can launch with early planning efforts and existing building retrofits, such as heating and cooling upgrades, and PV and battery installations. Given the long on-ramp for a new resilience hub, there is often a need for some quick wins to help demonstrate the hub's value to the community. Early efforts should also include building emergency management partnerships, conducting staff training, and providing early hands-on supply distribution opportunities for volunteers. Additional early- and medium-term implementation projects could include urban forestry and low-impact development projects.

Case Study

School as a Clean Air Refuge

The TAP shared an example of how upgrades to existing facility can produce exciting resilience co-benefits.



GLUMAC/ SMM EPA

In this instance, an existing neighborhood school needed mechanical equipment upgrades. The school was centrally located and served as a daily community resource, a key factor in social resilience. The surrounding neighborhood was home to vulnerable residents at risk of negative health impacts from poor air quality.

Through upgrades to the school's air handling system, the risks of disease transmission to students and faculty were reduced, and the neighborhood received the co-benefit of a mechanical system actively trapping and removing smoke and other dangerous particulates from the neighborhood's outdoor air.

This intervention showcased innovative all-electric technology in partnership with a local business, benefiting the school and the broader neighborhood.

Communication

Resilience is not something the City can achieve alone. It requires a co-governed ecosystem of partners who bring complementary strengths and resources, and who can build trust and relationships that allow the implementation work to begin, flourish, and endure. Throughout interviews with community members, government employees, and business leaders, "partnership" was an oft-cited topic and notable area of opportunity. Partnerships are built through effective communication.

The TAP's recommendation of collaborative decision-making and a co-governance approach to resilience relies on the City aligning its authority and resources with the community to share responsibility, maintain accountability, and deliver real, tangible change. Co-governance is shared decision-making between the City and communities, supported by a broader ecosystem of partners that help deliver and scale outcomes. It all begins with trust. It engages community members and is supported by the highest level of City leadership. This collaborative, co-governance approach is critical to prioritizing action, enabling implementation, and securing funding for CARP implementation.

Prioritize Building Trust

To help the City and the ED further define their approach to partnerships and communication, the TAP shared the following best practices in building trust with community members. These practices should be incorporated throughout all stages associated with further advancement of the TAP's recommended next steps. Building trust early can help the City equip and engage future climate stewards who can help spread resilience information across the community.

- **Build on existing work and identify gaps.** The ED's Climate Smart Team was identified specifically as a group within the City government that connected well with the community during the drafting of the CARP. In a city the size of San José, strategic ongoing communication will be critical to sustain trust. It will be helpful to identify where gaps in community participation and communication occurred previously and begin this next round of engagement specifically in those spaces.
- **Focus on education and transparency.** The science of resilience can be complicated, but the effects of extreme heat or the visible presence of water in a flooded street are very easy to understand. The City will need to focus on clarity and simplicity in its education and communication efforts to ensure that the message is clear, that the need for

everyone to participate is unambiguous, and that there is transparency about the City's resilience efforts in a neighborhood and across the municipality.

- **Learn from the community's lived experiences.** Community members share stories and learn from one another. Similarly, the City should listen to and learn from the community to better understand specific challenges that the community faces during extreme climate events, such as loss of power, access to daily amenities, critical health support, access to work place, education, etc.; high priority issues to be addressed in the immediate future, and strategies that will deliver high value, high impact solutions for a more resilient daily living..
- **Identify near-term needs while planning long-term.** This long-term planning work may not feel very tangible to community members. Balancing long-term efforts with immediate community needs can help align the process in community members' minds and facilitate greater support for the long-term efforts.
- **Follow through on promises.** It is critical that the City does not over-promise on its long-range planning efforts, and it is imperative that it deliver on the promises it has made to the community today.

The TAP also noted several best practices for engaging with the community. While the City is likely well-versed in these practices, they are worth repeating.

> "We're out of the era of [community groups] doing things for free."
>
> —INTERVIEWEE

- **Be inclusive.** Reach out to different demographics and people of differing abilities. Ensure that language and other barriers do not prevent community members from engaging in the process.
- **Prevent engagement fatigue and compensate time.** It is possible that community members who are likely to engage in this work have also been tapped time and time again for input and participation. Engagement fatigue is a real concern, and community members should be compensated for their time. For this work, employing a more action-oriented mindset, one that uses co-creation and co-governance, can create an environment where creative problem solving can happen and community members can leave energized rather then exhausted.
- **Meet community members where they are.** Identify engagement techniques, tools, and formats for how City staff are taking information to the community. Expecting community members to travel to a large meeting held at the convenience of others will not result in meaningful engagement. It is important to attend events and meetings where the community already engages and to go to spaces and places where daily life happens, gently showing up to request their insights and assistance.
- **Establish success metrics for community engagement.** This process takes time, and while it may be more art than science, establishing metrics around engagement (number of events, people reached, and feedback received) can help the City understand where progress is being made and course-correct when adjustments are required.

Partner Engagement

Every community has trusted and embedded community partners. These are often nonprofit and faith leaders as well as trusted local elected leadership. These are the people that community members already know and trust—and turn to for information. Building trust and relationships with these partners and other aligned organizations can help the City build community trust and open additional lines of communication. These partnerships will help expand limited staff capacity. The TAP outlined the following best practices for working with and fostering effective community partnerships and cross-departmental alliances.

- **Create space for community partners.** Not only can and should the City work with community partners to help spread information about its resilience efforts and resources, but it should also ensure that these partners are invited to the table to inform the formation of City policies. Inviting partnership in implementation actions can also expand and deepen the effectiveness of the City's efforts by broadening the distribution and implementation channels.
- **Lean on your partners to expand resources.** Partnering with community organizations can increase staff access to potential funding opportunities. Additionally, workforce training of volunteers and organization staff in potential areas of need—staffing resilience hubs and tree planting, for example—can greatly expand staff capacity and create new green jobs. Again, no one agency should tackle this work alone.
- **Coordinate efforts on multi-benefit projects.** City staff and leaders are encouraged to coordinate with other City departments and partner agencies to identify projects and funding that can deliver multi-benefit outcomes. Prioritizing these multi-benefit projects can help embed resilience across municipal efforts and advance citywide resilience.
- **Identify alignments with regional efforts.** Every community lining the shores of San Francisco Bay is working to improve resilience. Aligning local resilience and adaptation projects with regional efforts can expand the reach and impact of the City's resilience-building efforts and further support the work of neighboring communities. Similarly, collaborating with regional and state agencies, peer communities, and non-profit organizations to align respective climate goals can improve competitiveness for funding.

SILICON VALLEY LEADERSHIP GROUP

SAVE THE BAY

SFEI
SAN FRANCISCO ESTUARY INSTITUTE

Caltrans

Communicating Successes

As one panelist noted, "if you pave the path with quick wins, others will want to walk along." The City has a responsibility to the community in this resilience work. It also has a responsibility to share the story of the work when and where possible, to help residents understand the value of the municipal investment of tax dollars and, just as importantly, the role individual community members can play in building their own personal and household resilience. This communication can serve multiple functions—informing the community, updating partners, and even serving as the basis for future funding pursuits.

The following actions can help support the City in its outreach to and communications with potential partners and funders.

- **Celebrate wins and gain momentum.** Early actions and resilience wins can be shared across the City's partner network and into the community. The visibility of these early wins will support programmatic

momentum and help build support for additional actions down the line.

- **Continue to build the partner ecosystem.** The ecosystem of resilience partners is an ever-expanding network. As new partners join the effort or other partners expand their resilience measures, the City's ecosystem grows stronger. These partnerships should be nurtured, and the ecosystem allowed and encouraged to expand.
- **Engage educational institutions and students.** The City has an exciting opportunity to create a "living lab" experience for neighboring educational institutions. Students of all ages could be invited to participate in the City's resilience efforts, whether through the creation of collateral material that helps tell the resilience story of a particular neighborhood or through on-the-ground science studies that invite students to measure and track sea level rise and its impacts along San José's shores. The added benefit of these partnerships is the youth who are exposed to the resilience efforts have the potential to become the city's next climate stewards.
- **Reduce barriers to partnership.** As noted earlier by the business community, it should be easy to partner with the City in these efforts. While some partnerships may require contracts and formalities, there are a host of other partnerships that can exist at a more casual level, with commitments to sharing resilience information, hosting engagement activities, or fostering a resilience mindset among an organization's members. It should be easy to support San José's resilience.

The East Bay Regional Parks District commissioned a brochure to use in conversations with potential funders. The materials highlight key findings from a recent Risk Assessment and Adaptation Report completed on behalf of the Parks District.

Key Recommendations and Next Steps

The Climate Adaptation Resilience Plan is an impressive approach to improving resilience across San José. With 19 measures to tackle, the Climate Smart team has its work cut out for it. Through the evaluation of the four key measures explored in this study, the City can begin work that should help lay a foundation for future efforts that compound and build resilience and resource capacity along the way.

As the City and Climate Smart team continue this work, the following guidelines can help to align priorities, partners, and efforts.

Establish a strong co-governance structure. Setting the table with shared decision-making between the City and communities that is supported by City leadership is critical. Strong cross-departmental alignment and meaningful community partnerships will further support the foundations of this work and help ensure its longevity and efficacy.

Develop a project roadmap. There is no lack of work to do or projects to tackle. A roadmap that includes targeted risk assessments, existing resources, and potential funding can lay the foundation for prioritizing projects with realistic implementation timelines.

Tell the story. Communication is key. Collaborative marketing with partners, cross-departments, and the community can help the Climate Smart team gain external and internal champions who can extend the reach of the department, deepen the impact across the community, and spread the message to potential new partners and funders beyond the city's boundaries.

> "The City doesn't have to—nor should it—go at this alone!
>
> —ULI PANELIST

Early Actions

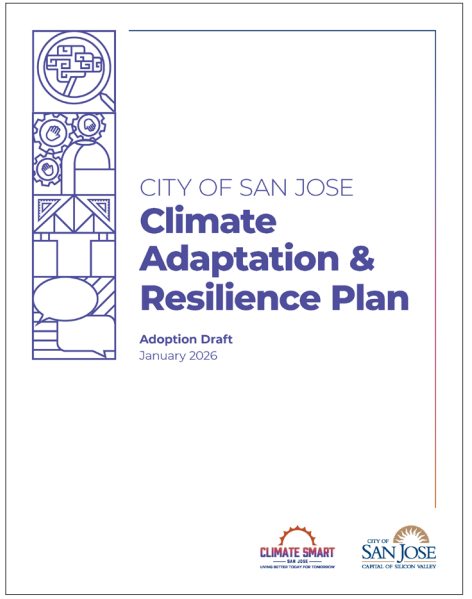
In addition to the TAP's broad guidance, the following early actions can help the City build momentum while strengthening its foundation for the work ahead.

Governance

- Reconstitute the Climate Working Group from CARP and launch a CARP Leadership Board.
- Create a Community Engagement Plan that can also serve as a resource for the General Plan environmental justice element update.

Design Standards

- The City is encouraged to move beyond a primary focus on vulnerabilities to begin



MEASURE 1—VS
Site- and System-Specific Vulnerability Studies

Measure: Conduct studies to better understand site- and system-specific vulnerabilities and potential interventions for mobilehome parks, City facilities, and water system.

MEASURE 2—AF
Climate Resilience and Adaptation Funding

Measure: Explore options to fund the CARP climate resilience and adaptation efforts.

MEASURE 9—CD
Resilient City Infrastructure Design Standards

Measure: Incorporate climate change projections and climate hazards into design and siting decisions for City infrastructure.

MEASURE 13—RH
Community-Serving Facility and Resilience Hubs

Measure: Upgrade community-serving municipal facilities (such as recreation facilities, community centers, cultural facilities, and libraries) to ensure functionality during climate hazard events and establish accessible resilience hubs across San José.

measuring risk, prioritizing strategies that are sized to the level of risk, and leveraging all potential co-benefits.

- Right-size interventions by matching strategy intensity with risk magnitude, aligning solutions with projected conditions and asset lifespans.
- Evaluate benefits and tradeoffs, including lifecycle costs, avoided losses, co-benefits, equity impacts, and flexibility.

Resilience Hubs

- Plan for an ecosystem of diverse resilience hubs and create vulnerability and asset maps for potential resilience hubs.
- Partner with the community to identify local needs, priorities, and trusted physical spaces that might contribute to a Community Resilience Hub ecosystem.
- Collaborate on creative funding partnerships.
- Streamline approvals and create a toolkit for how to create a resilience hub on identified sites.

Communication

- Prioritize community engagement in the socially vulnerable communities identified in the CARP.
- Identify and strengthen relationships with community partners who have trusted relationships in the City's diverse communities.
- Initiate conversations with public agencies, the business community, and private asset owners with assets in high-risk areas.

The CARP has set the City on a good path toward resilience. With clear, actionable strategies on a select number of early measures, the City can establish a solid foundation for governance, resilient design, and collaborative partnerships that will catalyze early adoption of key resilience measures and help the work gain needed momentum across San José.

About the Panel


SJ26.org
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Jessica von Borck

TAP Chair
Executive Director of Land Use, Land Use and Environmental Planning Team, Land Buildings and Real Estate
Stanford University

Jessica is a land use planning, urban design, and public policy professional with 30+ years of experience working with government agencies, community groups, and multidisciplinary teams during the entitlement, permitting, funding, and construction phases of private and public development projects. She has held leadership and executive roles in the fields of planning, economic development, and city administration.

At Stanford University, Jessica and her team support the senior administration and the Board of Trustees with recommendations for long-term uses and the protection of land-based resources. She recently partnered with Stanford's office of sustainability and lead a vulnerability study and land use resilience strategy involving subject matter experts and stakeholders across the university. This work will serve to inform the university's Climate Action Plan update. In addition, Jessica managed and led the development of the university's first Wildfire Management Plan (2022) and Tree Resilience Strategy (2025) with the goal of ensuring the university and its lands are climate-ready today and into the future.

Jessica is a member of the San Francisco Bay Area Planning and Urban Research Association and ULI San Francisco. She completed her undergraduate studies at Arizona State University and is currently a lecturer for Stanford's Bill Lane Center and Urban Studies program.

Samantha Lubow

TAP Vice-Chair
Associate Director, Climate Action
Stanford University

Samantha (Sam) has been working in sustainability for over a decade with roles at UC Davis, UC Berkeley, and Stanford University. As Associate Director of Climate Action at Stanford, she currently oversees climate action and climate adaptation & resilience planning, sustainability reporting and the implementation of various initiatives. At the University of California, her experience ranged from managing greenhouse gas emissions inventories to optimizing sustainable food sourcing and waste management strategies.

Mathew Bamm

Civil Engineer
ARUP

Mathew Bamm leads Arup's West Coast Civil & Water team including civil and water resources engineers in Los Angeles, San Francisco, and Seattle. He is an Associate Principal with extensive experience in site and linear infrastructure design from entitlement planning through detailed design and construction.

His work focuses on highly sustainable water management solutions and resilient flood mitigation strategies, including the preparation of such systems to adapt to the impacts of climate change.

Through the Invest-in-Arup research initiative, Mathew leads the development of a resiliency planning tool that generates future rainfall data for simulating drainage performance based upon projected climate simulations run for the Intergovernmental Panel on Climate Change. Such data allows designers and practitioners to model and then build resilience into their existing and planned infrastructure assets.

Julia Chase

Chief Resilience Officer
City of San Diego

Julia Chase is a climate resilience leader with more than a decade of experience advancing adaptation, conservation, and sustainability initiatives. She currently serves as Chief Resilience Officer for the City of San Diego, where she directs the City's climate resilience and conservation work program. In this role, she has overseen the implementation of Climate Resilient SD, development of San Diego's Coastal Resilience Master Plan, and led citywide strategies to address extreme heat, sea level rise, and habitat conservation. Julia has managed the integration of climate risk and adaptation strategies into long-range planning, capital improvement programs, and infrastructure design standards—ensuring that resilience is embedded across city operations.

Prior to her current role, Julia worked in both the public and private sector, supporting climate planning at the local, state, and federal level, including risk assessments, climate action and adaptation plans, and energy resilience planning. Julia received her Bachelor's degree in environmental studies from Villanova University and Master's degree in environmental science from SUNY College of Environmental Science and Forestry.

Erin Feeney

Resilience Lead + Associate
David Baker Architects

An architect focused on expanding how we approach sustainability, Erin believes that designing housing built to last is critical to helping communities not only survive, but thrive. Erin is a leader of DBA's Sustainability working group, guiding efforts around building performance to enhance human experience and resilience in our work. This includes performance standards and processes to enhance thermal, visual and acoustic comfort, as well as site adaptation, systems thinking, and ecology.

She leads the design and implementation of the redevelopment of Midway Village in Daly City, California. The plan's second phase, 8 Partridge Street, is currently in construction and will be the first independent project to be self-certified under the Kelsey's Inclusive Design certification framework. Erin was also a key collaborator on Africatown Plaza, community housing designed to support the Black community in Seattle.

Erin holds a Master of Architecture from the University of Washington in Seattle.

Poonam Narkur

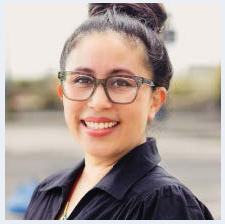
Principal
WRT

Poonam is a Principal at WRT, leading the firm's Planning and Urban Design practice on the West Coast. With a multidisciplinary background in planning, urban design, and architecture, she brings a broad and integrated skill set to her work. She has led projects ranging in scale from 0.5 acres to over 5,000 acres and has collaborated extensively with public agencies, private sector clients, and nonprofit organizations.

Driven by a passion for creative problem-solving, Poonam's work emphasizes environmentally responsible, people-centered design. She has successfully conceived and facilitated complex community engagement processes, bringing together citizens and diverse stakeholders to support informed, inclusive decision-making in the long-term interest of their communities.

Aysha Pamukcu

Policy Fund Director
San Francisco Foundation



Aysha Pamukcu is a policy strategist, movement lawyer, and champion of good governance who works to build healthy communities where opportunity and shared prosperity are within reach for everyone. She leads the San Francisco Foundation's Policy Fund, supporting local governments and community organizations in co-designing policy solutions that strengthen housing stability, expand economic opportunity, and improve long-term community resilience. Aysha is also the founder of Movement Praxis, which helps organizations make community-powered change a reality, and co-author of the book Advancing Equity and Justice. Her career spans public health, civil rights, and environmental justice, with a focus on cross-sector collaboration and strong community partnership.

She is active in her community, chairing the Asian Pacific Environmental Network's board and the South San Francisco Planning Commission, and serving on the San Mateo County Commission on the Status of Women.

Sean Quinn

Principal, Director of Regenerative Design
HOK

Sean Quinn, HOK's global Director of Regenerative Design leverages natural systems and building technology to enhance development as a steward of the environment and communities.

Based in San Francisco, he works across the firm's broad portfolio of local, regional and international projects to establish positive performance strategies. He seeks common solutions to the complex problems of the day through design efforts that achieve significant environmental, health and resilient enhancements while striving beyond carbon neutrality. With over 20 years of architectural experience focused on performance-based design and planning, Sean has led and assisted the design of projects across all typologies through North America, Europe, Africa, Middle-East and Asia. Sean complements his design practice with research in building science and simulation, innovative building systems and fabrication, and biomimicry.