



# Memorandum

**TO:** TRANSPORTATION &  
ENVIRONMENT COMMITTEE

**FROM:** Erica Garaffo  
Assistant to the City Manager

**SUBJECT:** SEE BELOW

**DATE:** 9/22/22

Approved

Date

9/26/22

**SUBJECT: CITY INITIATIVES ROADMAP: RESILIENT AND SUSTAINABLE CITY INFRASTRUCTURE AND EMERGENCY PREPAREDNESS ENTERPRISE PRIORITY OVERVIEW REPORT**

## RECOMMENDATION

Accept the status report on the Resilient and Sustainable City Infrastructure and Emergency Preparedness Enterprise Priority, including a review of the initial framework and priority initiatives status of select initiatives as part of the approved City Initiatives Roadmap for 2022-2023.

## OUTCOME

Staff will provide an update on the strategy, impact and opportunities in the Resilient and Sustainable City Infrastructure and Emergency Preparedness Enterprise Priority and the Committee will provide feedback to staff on their update.

## BACKGROUND

*A great City has great infrastructure*, the often-invisible networks of pipes, wires, roads, facilities, and spaces that connect us and enables the daily utilities that make modern life possible. Every day this infrastructure helps quietly bring us water, electricity, broadband, and takes away our sewage, garbage, and recycling.

Today our City's infrastructure faces four simultaneous challenges.

1. We must **rehabilitate our existing aging infrastructure** to ensure we can continue to provide the backbone of day-to-day public services our community relies on.
2. We must **grow our infrastructure** to accommodate more people as we welcome an additional 400,000 to San José over the next decades.

3. We must **become more sustainable** as the already variable California climate is being made more erratic by climate change, bringing with it deeper droughts, and necessitating a shift away from fossil fuels and toward renewables.
4. Finally, we must **become more resilient** and recognize that earthquakes and natural disasters are inevitable and often increasingly likely because of climate change already underway.

As a City, we have made significant investments in developing infrastructure suited for our future from our massive rebuild of the Regional Wastewater Facility to the launching of our innovative Community Energy department. But in order to meet the challenges facing our City, we must do more.

## **ANALYSIS**

Meeting these challenges requires a fundamental shift from extractive consumption to circular reuse with resilience and sustainability built in and even going beyond sustainability to actively restoring the environment, natural resources, and productive capacity on which we depend. We believe a regenerative approach to city infrastructure is required to meet both the needs of our people (equity) and live within the capacity of the planet (environment).

The complexity of this work and the reality of Climate Change require us to shift in three ways:

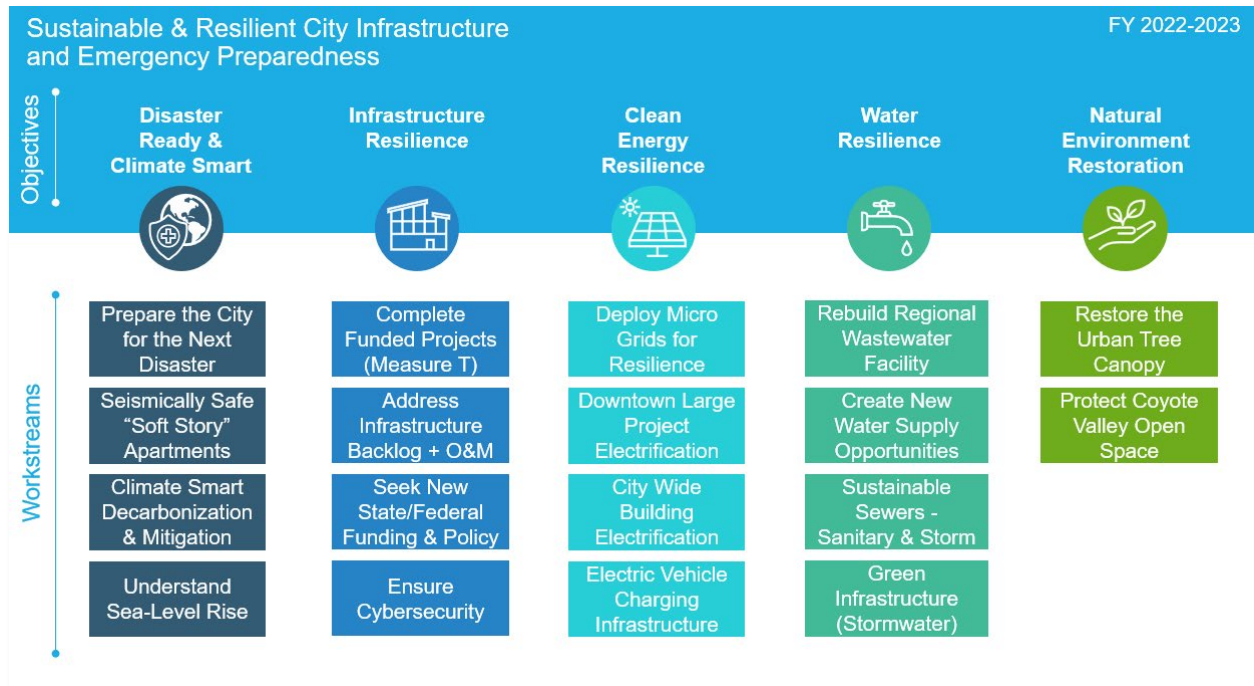
1. A change in mindset. From departmental orientation to systems thinking and from short-term tactics to long-term future action with an understanding that past is no longer prologue, and we must seek to understand and model the likely future.
2. An expansion of focus from sustainability and mitigating our impact on future climate change to a broader embrace of adaptation and resilience; living in a world where climate change is already here.
3. Innovative and bold approaches to funding the massive capital investments for rehabilitating and advancing our critical City infrastructure.

In response to these challenges and following the direction provided in the March Budget Message, the City Manager's Office will lead the organization's resilience efforts to transform the City's infrastructure with a focus on the five objectives that have the most potential for big, bold, and meaningful change.

1. Disaster Ready and Climate Smart
2. Infrastructure Resilience
3. Clean Energy Resilience
4. Water Resilience
5. Natural Environment Restoration

These five objectives are supported by eighteen initiatives that make up the newly reconstituted and merged City Enterprise Priority of Sustainable and Resilient City Infrastructure and Emergency Preparedness (Figure 1).

Figure 1: Sustainable and Resilient City Infrastructure and Emergency Preparedness Objectives and Workstreams for FY 2022-2023



**Disaster Ready and Climate Smart**

California is facing an increasingly hotter and drier climate. We can no longer use our past experience to drive future disaster preparedness planning. Shifting our planning to a more future oriented framework means incorporating new challenges such as Sea-level rise from warming oceans with traditional disaster planning (ie. earthquakes, floods, fire, etc.). This objective also includes assisting property owners with retrofitting an estimated 1,000 “Soft Story” apartments which are at risk of collapsing in an earthquake and tend to house our most economically disadvantaged residents. Lastly, we must continue to build on the City’s Climate Smart vision to reduce Green House Gas emissions by shifting to broader electrification of City buildings and actively working to remove carbon from the atmosphere by preserving natural and working lands.

**Infrastructure Resilience**

In 2018, City voters passed Measure T to fund the rebuild of critical City buildings and infrastructure. Measure T has been instrumental, but we are still woefully short in rehabilitating the City’s existing aging infrastructure. Conservatively, the City has at least \$1.7 billion worth of infrastructure investments that are unfunded. This number will continue to rise as the cost to replace is higher than the cost to maintain. Funding these projects will require massive capital investments and a fundamental shift in how the City pursues federal, state, and municipal funding sources to finance these projects.

### **Clean Energy Resilience**

The City's Community Energy Department is making great strides in increasing the availability of sustainable energy sources. We must continue to build on this work and expand the City's reliance on electrification over non-renewable energy sources. This will require deploying solar and battery micro-grids as backup power generation for critical City facilities. And a shift in our building codes to promote electrification. Another important element of this objective is expanding electric vehicle charging infrastructure in places where we lack charging stations and where the private market may not naturally locate.

### **Water Resilience**

With the increasingly erratic climate in California and in the midst of a severe drought without improvements in water supply we will face limits to housing development and equitable growth. Water resilience is vital to this effort, the water related infrastructure projects are key to our success and require immediate additional financial and technical support. The City is actively investing its own resources, bond funds, and rate payer fees in these projects AND we need additional State and Federal funding and partnerships to complete the funding plan to deliver these critical climate resilient infrastructure projects. This objective includes rebuilding the City's Regional Wastewater facility, expanding the City's production and use of recycled water, rehabilitating our aging storm and sewer systems, and expanding the use of Green Stormwater Infrastructure.

### **Natural Environment Restoration**

Preserving and restoring natural open space is critical for carbon sequestration as well as providing a beautiful space for residents to enjoy living in. In our urban areas, the City aims to grow our tree canopy to counteract concrete heat islands and enrich the green-scaping of our City neighborhoods. In rural areas of the City, we are working closely with our partners at Peninsula Open Space Trust (POST) and the Open Space Authority to preserve and enhance the Coyote Valley Open Space at the southernmost boundary of San Jose.

The annual goals for each of the 18 workstreams under the five objectives are detailed in Appendix A<sup>1</sup>.

## **CONCLUSION**

We have a bold, feasible plan to adapt to a hotter, drier San Jose and build the sustainable and resilient infrastructure needed to live and thrive within the inevitable impacts of climate change. Our focus is on key resilience objectives and major capital projects in the areas of drought resilience, sea level rise, microgrid development, urban forests, seismic safety, Coyote Valley open space implementations, electrification, and prioritizing the rehabilitation of aging City infrastructure. Building out the sustainable and resilient infrastructure needed to adapt to the

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<sup>1</sup> Although there remains a significant amount of future infrastructure work that is not yet funded, the funding required to implement the annual goals listed in Appendix A is in the current budget.

changing climate and ensure for the continued economic growth of Silicon Valley will require unprecedented capital financing. To do this work successfully requires:

1. A change in mindset. From departmental orientation to systems thinking and from short-term tactics to long-term future action with an understanding that past is no longer prologue, and we must seek to understand and model the likely future.
2. An expansion of focus from sustainability and mitigating our impact on future climate change to a broader embrace of adaptation and resilience; living in a world where climate change is already here.
3. Innovative and bold approaches to funding the massive capital investments for rehabilitating and advancing our critical City infrastructure.

This work requires a change in thinking and dedicated resources to champion these efforts. We are beginning to form a team that can strategically move this work forward and provide the financing and technical expertise needed.

### **EVALUATION AND FOLLOW-UP**

Staff is scheduled to present the next update to the Transportation and Environment Committee in April 2023.

### **CLIMATE SMART SAN JOSE**

The recommendation in this memo aligns with one or more Climate Smart San José energy, water, or mobility goals.

### **PUBLIC OUTREACH**

This memorandum will be posted on the City’s website for the October 3, 2022, Transportation and Environment Committee meeting.

### **COORDINATION**

This memo has been coordinated with the City Attorney’s Office and City Manager’s Budget Office.

### **COMMISSION RECOMMENDATION/INPUT**

No commission recommendation or input is associated with this action.

September 26, 2022

**Subject: City Initiatives Roadmap: Resilient and Sustainable City Infrastructure and Emergency Preparedness Enterprise Priority Overview Report**

Page 6

**CEQA**

Not a Project, File No. PP17-009, Staff Reports, Assessments, Annual Reports, and Informational Memos that involve no approvals of any City action.

/s/  
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Assistant to the City Manager

For questions, please contact Erica Garaffo, Lead Resilience Strategist, at [erica.garaffo@sanjoseca.gov](mailto:erica.garaffo@sanjoseca.gov).

Appendix A: City Infrastructure Objectives, Workstream Drivers and Workstream Annual Goals

City Infrastructure Objectives	Work Stream (Dept Director/ Driver)	FY 2022-23 Annual Goal
<b>Disaster Ready + Climate Smart</b>	<b>Prepare the City for the Next Disaster</b> Ray Riordan/ Jay McAmis	1. Update current Emergency Operations Plan and Annexes. 2. Complete After Action Review of the response and recovery from the COVID-19 pandemic. 3. Implement a Multi-Year Exercise and Training Program (MYTEP) for EOC personnel. 4. Continue to expand the CERT program. 5. Continue to work with PW and IT for the implementation and completion of the EOC.
	<b>Seismically Safe "Soft Story" Apartments</b> Chris Burton/ Lisa Joiner	1. Create inventory and categorize typologies of vulnerable soft story structures in the city 2. Council approval of ordinance for mandatory soft story seismic retrofits 3. Identify funding mechanisms to assist property owners with financing of the retrofits.
	<b>Climate Smart Decarbonization &amp; Mitigation</b> Kerrie Romanow / Julie Benabente	1. Update the building reach code ordinance 2. Bring Climate Smart Natural and Working Lands, and 3. Zero Waste Elements to Council
	<b>Understand Sea Level Rise</b> Matt Cano / Mathew Nguyen	1. Gain common understanding amongst city departments and leadership regarding, conceptually, potential sea level rise and potential risks to City
<b>Infrastructure Resilience</b>	<b>Complete Funded Projects (Measure T)</b> Matt Cano / Katherine Brown	1. Complete and open new EOC and FTC 2. Award construction contracts for FS8, FS32, PD Air Support Hangar, PD Training. 3. Secure land for FS 23 4. Continue progress on remainder of projects
	<b>Address Infrastructure Backlog + O&amp;M</b> Matt Cano / Mathew Nguyen	1. Convene interdepartmental working session to level set on challenges and opportunities for infrastructure backlog, prioritize the backlogs and develop a workplan to address high priority backlogs
	<b>Seek New State/Federal Funding &amp; Policy</b> Sarah Zarate / Zane Barnes	1. Evaluate state and federal funding streams available for existing and future infrastructure needs, and work collaboratively and creatively with City departments in resolving infrastructure funding gaps. 2. Engage local, state, and federal representatives to modify or establish policies that will enable the City to make meaningful and measurable strides towards its infrastructure goals. 3. Success is defined by securing new funding for projects identified in the City’s Strategic Project List, and achieving policy and project alignment among key stakeholders.
		1. Hire staff in PW to lead public facility microgrid effort;

<b>Clean Energy Resilience</b>	<b>Deploy Micro Grids for Resilience</b> Matt Cano / Walter Lin	<ol style="list-style-type: none"> <li>2. Develop clear strategic goals and objectives for Microgrids on city facilities</li> <li>3. Begin design of microgrids on EOC/FTC, HHPZ, Roosevelt</li> </ol>
	<b>Downtown Large Project Electrification</b> Lori Mitchell / Jim Caldwell	<ol style="list-style-type: none"> <li>1. Case Study presented to City Council defining the benefits and risks of creating a municipal utility to serve new development</li> <li>2. Formation of municipal utility to serve new development recommended to Council</li> </ol>
	<b>City Wide Building Electrification</b> Kerrie Romanow / Julie Benabente	<ol style="list-style-type: none"> <li>1. Begin building electrification and workforce development accelerator program</li> <li>2. Support submissions for at least \$1M in external funding for building electrification efforts in San Jose</li> </ol>
	<b>Electric Vehicle Charging Infrastructure</b> Lori Mitchell / Zach Struyk	<ol style="list-style-type: none"> <li>1. Present Financial Analysis of DCFC Hub to City Council</li> <li>2. Recommend Pilot DCFC Hub to City Council</li> <li>3. Complete DCFC Hub Pilot Installation</li> <li>4. Conduct a thorough market research and landscape analysis in collaboration with DOT and PW</li> <li>5. Form a comprehensive strategic plan and implementation framework in collaboration with DOT and PW</li> </ol>
<b>Water Resilience</b>	<b>Rebuild Regional Wastewater Facility</b> Kerrie Romanow / Mariana Chavez	<ol style="list-style-type: none"> <li>1. Achieving substantial construction completion for 3 major projects by end of FY2022-23:                             <ol style="list-style-type: none"> <li>a. Advanced Facility Control and Meter Replacement Phase 1 (Jul. 2022)</li> <li>b. Blower Improvements (Dec. 2022)</li> <li>c. Advanced Facility Control and Meter Replacement Phase 2 (Mar. 2023)</li> </ol> </li> <li>2. Consider awarding \$69.6M for future projects in FY 2022-23:                             <ol style="list-style-type: none"> <li>a. Fire Life Safety Upgrades (\$2.9M)</li> <li>b. HVAC Improvements (\$13.3M)</li> <li>c. Yard Piping Improvements Phase 2 (\$10.8M)</li> <li>d. Facility-Wide Water Systems Improvement (\$42.6M)</li> </ol> </li> <li>3. Finalize a comprehensive flood protection strategy for the RWF to address both riverine and coastal flooding. The pending scope and timing for completion of the USACE Shoreline Levy (reaches 4 and 5) is a significant component of this strategy and the decision on how to incorporate this element will require coordination and commitments from other local agencies, such as Santa Clara Valley Water and USACE. This effort will be supported by PW.</li> </ol>
	<b>Create New Water Supply Opportunities</b> Kerrie Romanow / Jeff Provenzano	<ol style="list-style-type: none"> <li>1. Lead recruitment of FUSE Fellow and Principal Engineer</li> <li>2. Begin water supply strategy efforts</li> <li>3. Explore funding strategies to increase recycled water usage</li> </ol>
	<b>Sustainable Sewers - Sanitary &amp; Storm</b> Matt Cano / Mathew Nguyen	<ol style="list-style-type: none"> <li>1. Finalize equity analysis on funding prioritization for cast iron sewer pipe replacement</li> </ol>
		<ol style="list-style-type: none"> <li>1. Facilitate interdepartmental cooperation regarding progress on meeting consent decree requirements</li> </ol>



	<p><b>Green Infrastructure (Stormwater)</b> Matt Cano / Mathew Nguyen</p>	<ol style="list-style-type: none"> <li>2. Identify sufficient projects to meet consent decree goals</li> <li>3. Coordinate with Budget Office and partner department to identify sufficient budget to meet consent decree goals</li> </ol>
<p><b>Natural Environment Restoration</b></p>	<p><b>Restore the Urban Tree Canopy</b> John Ristow / Rick Scott</p>	<ol style="list-style-type: none"> <li>1. Hire newly budgeted staff to increase program capacity</li> <li>2. Develop an efficient tree planting and maintenance program to plant up to 2000 trees and maintain 1/12th of the city-owned inventory annually</li> <li>3. Establish Community Forest Advisory Committee (CFAC) to guide urban forestry improvements</li> </ol>
	<p><b>Protect Coyote Valley Open Space</b> Chris Burton / Michael Brilliot</p>	<ol style="list-style-type: none"> <li>1. Monterey Coyote Corridor Study             <ol style="list-style-type: none"> <li>a. Retain consultant team</li> <li>b. Complete Existing Conditions/baseline analysis</li> <li>c. Complete first Community Workshop</li> </ol> </li> <li>2. Align City with County Agricultural Zoning             <ol style="list-style-type: none"> <li>a. Complete Assessment of County’s proposed AG zoning update and where the City should consider amending its AG zoning for to achieve alignment.</li> </ol> </li> </ol>