



Office of the City Manager

08

CONSENT CALENDAR
November 16, 2021

To: Honorable Mayor and Members of the City Council
From: Dee Williams-Ridley, City Manager
Submitted by: Liam Garland, Director, Department of Public Works
Subject: Vision 2050: A Year of Progress to Creating Sustainable and Resilient Infrastructure for Berkeley

RECOMMENDATION

Accept the progress report on the 1-year anniversary of the Council's adoption of the Vision 2050 framework report.

FISCAL IMPACTS OF RECOMMENDATION

There are no immediate fiscal impacts because work to implement the Vision 2050 recommendations are funded in the FY2022 budget. The work includes evaluating the options for funding long-term infrastructure improvements.

CURRENT SITUATION AND ITS EFFECTS

The Vision 2050 task force presented their report, *Sustainable and Resilient Infrastructure, Creating a Better Future for Berkeley*, and it was adopted by City Council on September 29, 2020. The City Manager authorized proceeding to implement the recommendations, appointed the Public Works Director as implementation lead, and formed an implementation team that included:

- Ray Yep – Implementation Team lead
- Margo Schueler – Implementation Team co-lead
- Andrew Brozyna – Public Works Department
- Scott Ferris – Parks, Recreation and Waterfront Department
- Liza McNulty – Parks, Recreation and Waterfront Department
- Billi Romain – Office of Energy and Sustainable Development
- Katie VanDyke – Office of Energy and Sustainable Development
- Tano Trachtenberg – Mayor's office
- Gordon Wozniak – Financing analysis

We are at the 1-year anniversary of the Council's adoption and the attached report describes the substantial progress that has been made. Here is a summary:

- **Work tasks** – Of the 14 tasks identified in the Vision 2050 report, 9 are currently underway or have been completed.
- **Specialized expertise is engaged** – The City has engaged 4 consultant firms to provide expertise. Their support is in the areas of: a) implementing a life cycle maintenance program, b) gathering community input, c) evaluating funding options, d) preparing a Program Plan, and e) evaluating our organizational structure to deliver a capital program.
- **Schedule** – We identified a short, medium and long term plan for implementing the Vision 2050 recommendations. The short term action plan has been completed. We are on track to meet our medium term schedule, which is to recommend an infrastructure revenue measure(s) for the November 2022 ballot.
- **Budget** – Council authorized \$400,000 in the FY2022 budget for implementing the Vision 2050 recommendations. We are on budget and have retained consultants to support the work.
- **Oversight provided** – Oversight is being provided by the involvement of five commissions: Public Works, Parks and Waterfront, Transportation, Energy, and Disaster and Fire Safety.

In addition, the City's adopted FY 2022 capital improvement program, as shown in *March to 2050: Vision to Reality, A CIP In Brief*,¹ demonstrated how the City's capital planning, Vision 2050 framework, and project delivery were merging into one.

BACKGROUND

Berkeley's streets, storm drains, sewers, and water lines date to the early decades of the 20th century. Critical systems that we depend on every day are simply wearing out. Recent budgets were inadequate for infrastructure capital and maintenance needs, let alone modernizing these assets. Aging infrastructure is not only costly to maintain but it doesn't meet current or future requirements. This leaves the community vulnerable to unplanned failure and service interruptions. For residents, workers, and businesses trying to go about their daily lives, this can translate to unsafe conditions, unexpected costs, and inequity between neighborhoods.

Now, as we begin to grapple with Berkeley's \$1 billion in deferred infrastructure maintenance, new challenges are emerging. The local impacts of global climate change are a major threat to our aging infrastructure. Extreme storm events, wildfires, heatwaves, drought, and sea level rise will challenge streets, pipes, and open spaces that were designed for a more benign environment. And all of this will be happening as we wait and

¹ https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_General/CoB%20Design%20CIP%20Book.pdf

prepare for the next major earthquake. If our city is to survive and thrive, we must confront these challenges.

The Vision 2050 initiative was announced by Mayor Arreguin at his 2017 State of the City address to meet these challenges. Berkeley voters approved Measure R in November 2018. The measure asked: “Shall the measure, advising the Mayor to engage citizens and experts in the development of Vision 2050, a 30-year plan to identify and guide implementation of climate-smart, technologically-advanced, integrated and efficient infrastructure to support a safe, vibrant and resilient future for Berkeley, be adopted?” The response was a resounding yes. A residents’ task force of over 40 members was formed and the group worked for 18 months to prepare a framework to modernize Berkeley’s infrastructure.

On March 16, 2021, City Council held a budget workshop and gave input on the Vision 2050 implementation plan. The adopted budget included \$400,000 for key tasks of the implementation plan. This budget would enable the requisite pre-work leading up to the Council’s decision on whether to place an infrastructure-focused revenue measure or measures on the November 2022 ballot. The pre-work includes financial and bonding capacity analysis, robust public engagement, assessment of current capital delivery, and creation of a program plan.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

Implementing Vision 2050 would result in public infrastructure that is more resilient, creates fewer greenhouse gases, and reduces conflict between our built and natural environment.

RATIONALE FOR RECOMMENDATION

Adopting the progress report will confirm the importance of infrastructure improvements in Berkeley and affirm the work of the Implementation Team.

ALTERNATIVE ACTIONS CONSIDERED

No alternative actions were considered for this project.

CONTACT PERSON

Liam Garland, (510) 981-6303

ATTACHMENT

1. Vision 2050: Report to Berkeley City Council on a Year of Progress to Creating a Sustainable & Resilient Infrastructure for Berkeley

VISION 2050

A Report to Berkeley City Council

A Year of Progress on Creating

SUSTAINABLE & RESILIENT
INFRASTRUCTURE
FOR BERKELEY



Liam Garland, Public Works Director
Ray Yep, Vision 2050 Implementation Team Lead

OCTOBER 2021

INTRODUCTION AND SUMMARY OF PROGRESS

Infrastructure keeps our city functioning. The Vision 2050 report focused on the infrastructure systems over, on and beneath the public streets and right of ways, and the infrastructure needs of our parks and playgrounds, the Marina, public buildings and other facilities. Critical systems that we depend on every day – water, sewers, streets, parks, phone/internet and more – are simply wearing out.

The Vision 2050 report was adopted by City Council in September 2020. City Manager, Dee Williams-Ridley, authorized proceeding to implement the recommendations and appointed Public Works Director, Liam Garland, to lead the effort. Mr. Garland formed an Implementation Team with members from several departments in the City, the Mayor’s office and residents with specialized expertise. We are at the 1-year anniversary of the Council’s adoption and this report summarizes the progress that has been made.

The Vision 2050 task force identified Equity, Public Health and Safety, Strong Local Economy, and Resiliency and Sustainability as the core values for infrastructure development. This was followed with three guiding principles and five strategies and recommendations. These are summarized in Figure 1 below. The following highlights the progress made in the past year.



FIGURE 1 PRINCIPLES, STRATEGIES, AND RECOMMENDED ACTIONS

PRINCIPLE ONE

SUPPORT VIBRANT AND SAFE COMMUNITIES

Infrastructure shall take equity into account and improve the quality of life of all Berkeley residents, including having green open spaces, safe modes of mobility, and being prepared for fires and earthquakes.

PRINCIPLE TWO

HAVE EFFICIENT AND WELL-MAINTAINED INFRASTRUCTURE

Infrastructure shall be long lasting, use advanced technologies, and be maintained to provide efficient service.

PRINCIPLE THREE

FACILITATE A GREEN BERKELEY AND CONTRIBUTE TO SAVING OUR PLANET

Infrastructure shall accelerate the transition to carbon neutrality and include electrification, develop natural streetscapes using green infrastructure, and prioritize human-powered and public transportation.

STRATEGY ONE: Use Integrated and Balanced Planning

A: Use multi-criteria decision-making*

B: Use adaptive planning

C: Prepare and implement a Dig Once policy*

STRATEGY TWO: Manage Infrastructure from Cradle to Grave

A: Institute structured master planning*

B: Develop an Asset Management Program*

STRATEGY THREE: Adopt Sustainable and Safe Technologies

A: Accelerate the transition to clean energy and electrification

B: Implement Complete Streets to provide sustainable and healthy transportation

C: Develop natural streetscapes that provide ecosystem services

D: Use sensors, data, and advanced technologies

E: Prepare a wildfire mitigation and safety plan*

STRATEGY FOUR: Invest in Our Future

A: Take advantage of strong financial position to address infrastructure needs and commit to reducing large unfunded infrastructure liability by doubling capital expenditures*

STRATEGY FIVE: Prepare the City’s Organization to Implement a Major Capital Program

A: Develop an organization that is integrated and has capacity to deliver*

B: Prepare a program approach with management tools*

C: Provide independent oversight and reporting*

*Tasks currently in underway.

GAUGING OUR SUCCESS HIGHLIGHTS FROM THE PAST YEAR

WORK TASKS

Of the 14 tasks identified in the Vision 2050 report, 9 are currently underway or have been completed.

SPECIALIZED EXPERTISE IS ENGAGED

The City has engaged 4 consultant firms to provide expertise. Their support are in the areas of: a) implementing a life cycle maintenance program, b) gathering community input, c) evaluating funding options, d) preparing a Program Plan, and e) evaluating our organizational structure to deliver a capital program.

ON SCHEDULE

We identified a short, medium and long term plan for implementing the Vision 2050 recommen-

dations. The short term actions plan have been completed. We are on track to meet our medium term schedule, which is to target an infrastructure revenue ballot measure(s) in November 2022.

ON BUDGET

Council authorized \$400,000 in the FY2022 budget for implementing the Vision 2050 recommendations. We are on budget and have retained consultants to support the work.

OVERSIGHT PROVIDED

Oversight is being provided by the involvement of five commissions (Public Works, Parks and Water-front, Transportation, Energy, and Disaster and Fire Safety).



IMPLEMENTING THE 2050 VISION FRAMEWORK

IMPLEMENTATION SCHEDULE

We are planning to implement the Vision 2050 framework recommendations over 5 years. This is organized into three phases, plus a 4th phase for the implementation of specific projects.

PHASE 1 • SHORT-TERM FOCUS

100% COMPLETE

With the City Manager’s authorization in December 2020 to implement Vision 2050, it was timely to consider the short-term activities leading to mid-2021. The following work tasks were important steps to help incorporate Vision 2050 into the City’s work, and to set the stage for implementing Vision 2050 projects in later years:

- Ensure staff’s delivery of current infrastructure improvements
- Convene an Implementation Team
- Prepare an implementation plan and seek input from various stakeholders
- Incorporate Vision 2050 into City Council’s capital improvement workshops
- Submit Vision 2050 budget requests
- Strategize to leverage Vision 2050 to take advantage of Federal and State support

PHASE 2 • MID-TERM FOCUS

25% COMPLETE

The mid-term focus is for work tasks from July 2021 through December 2022. These tasks seek to build momentum in implementing the Vision 2050 strategies, while also being realistic about the City’s significant existing commitments. This phase boosts our master planning, increases staff capacity, and develops a fundable plan for accelerating Vision 2050’s implementation through a November 2022 revenue measure focused on infrastructure.

- Boost Master Planning
- Expand capacity to implement sustainable and resilient infrastructure
- Adopt sustainable and safe technologies

- The implementation plan proposes laying the groundwork for an infrastructure-focused revenue measure in November 2022 with the following activities.

- A. Community engagement. The work shall include an active website, community forums, ad hoc committees, community survey and other activities.
- B. Evaluate funding options. Consideration shall be given to funding options for capital improvements versus funding on-going maintenance.
- C. Program delivery assessment. This task will evaluate the City organization’s capability to implement a major capital program.
- D. Prepare a Program Plan. The information gathered above will be compiled into a 30-year Program Plan.

PHASE 3 – 5 YEAR IMPLEMENTATION PLAN

FUTURE PLANNING

Fully implementing the Vision 2050 recommendations will be a transformative process, and there will be surprises and challenges along the way. Our goal is to have the strategies implemented within 5 years, beginning a series of five-year implementation plans that maximize the opportunities, funding synergies, and public involvement opportunities of those future years.

PHASE 4 – PROJECT PLANNING,

DESIGN AND CONSTRUCTION

FUTURE PLANNING

This phase will implement the planning, design and construction of the projects described in the Program Plan. It will also continue with implementing the strategies in the Vision 2050 framework.



STRATEGY 1 FOCUS ON PLANNING

This strategy focuses on planning as a core competency and how proper planning will lead to more sustainable and resilient projects. The intent of the Vision 2050 task force was that projects will use broad based criteria, such as Envision, to evaluate alternatives, that the work will be integrated across City departments and that planning will be adaptive to changing environments. The following summarizes our progress to date.

DESCRIPTION OF STRATEGY

To use integrated and balanced planning

OUTCOME OBJECTIVES

To have long range planning be integrated, adaptive to changes and to be balanced by using multi-criteria in decision making

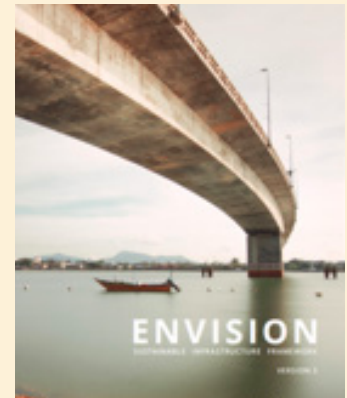
ACTIONS UNDERWAY

USE MULTI-CRITERIA DECISION MAKING

- Public Works Dept. has joined the Institute for Sustainable Infrastructure
- 2 staff are trained on Envision
- Multi-criteria decision making has been incorporated into planning process
- Flexibility to use Envision, Triple Bottom Line, Benefit/cost analysis, life cycle cost analysis, etc.

PREPARE A DIG ONCE POLICY

- Collected examples from San Francisco, San Diego, Palo Alto, South San Francisco, etc.
- Reviewed broadband master plan for Berkeley
- Preparing draft objectives and policy concepts



Projects will use broad based criteria, such as Envision, to evaluate alternatives, that the work will be integrated across City departments and that planning will be adaptive to changing environments.

NEXT STEPS:

1. Apply the Envision criteria to planning projects and continue to train staff on Envision
2. Develop adaptive planning concepts
3. Complete dig once policy



STRATEGY 2 LIFECYCLE MANAGEMENT

A key strategic shift is to move from reactive infrastructure management to lifecycle management, viewing the needs, costs and services expected from our infrastructure, from cradle to grave. The City moved quickly to develop and is nearing completion on a Strategic Asset Management Plan (SAMP). The SAMP provides the City with a high level review of policies, practices and provides a roadmap for a full development of detailed Asset Management Program across the many asset groups the City provides. The following summarizes our progress to date.

DESCRIPTION OF STRATEGY

Manage infrastructure from cradle to grave

OUTCOME OBJECTIVES

To manage infrastructure from systematic master planning to life cycle maintenance (asset management)

ACTIONS UNDERWAY

COMPREHENSIVE PLANNING (I.E. MASTER PLANNING)

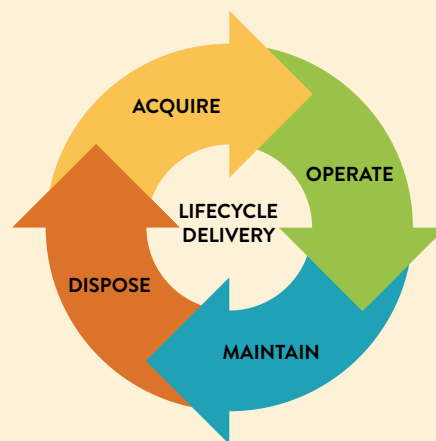
- Policy prepared for the Public Works Dept.
- Policy Implemented June 1, 2021
- Will be used on street lighting, Green Infrastructure/watershed, sewers, street surface, etc.
- Condition assessments at 10 buildings

STRATEGIC ASSET MANAGEMENT

- High level review of policies, practices and provides a roadmap for a full AMP
- Kick off meeting and maturity assessments held with 6 divisions and 2 depts.

ASSET MANAGEMENT SYSTEMS IMPLEMENTED

- NexGen (in Operations)
- AssetWorks (for equipment maintenance)
- AMCS (in Zero Waste)



NEXT STEPS:

1. Apply planning policy to near term master planning projects
2. Complete SAMP report, prepare an Asset Management policy and transmit to Council



STRATEGY 3 FOCUS ON TECHNOLOGIES

This strategy is to utilize advanced technologies to help Berkeley meet our future needs. The technologies will help us be more prepared for climate affects, to be safer from wildland fires, to be more connected, to meet our Climate Action Goals, to have healthy ecosystems, etc. To help us achieve this, the City will tap into the expertise nearby at U.C. Berkeley and the Lawrence Berkeley National Laboratory (LBNL). Discussions between these two organizations have identified activities beneficial to both. The following summarizes our progress to date.

DESCRIPTION OF STRATEGY

Adopt sustainable and safe technologies

OUTCOME OBJECTIVES

To use climate smart and advanced technologies to create a public realm that is sustainable, resilient and equitable

ACTIONS UNDERWAY

COLLABORATION WITH U.C. BERKELEY AND LBNL

Potential activities include:

- Advising on planning studies
- Holding technical webinars
- Internships for students
- Conducting pilot studies



Creating Defensible Spaces

INTEGRATED APPROACH TO FIRE SAFETY

- Berkeley Fire Dept. (BFD) is leading the implementation of Measure FF
- BFD is preparing a Community Wildfire Protection Plan

A key strategic shift from reactive infrastructure management and decision making is to move to lifecycle management, viewing the needs, costs and services expected from our infrastructure assets over the long life of these fundamental assets, from cradle to grave.

NEXT STEPS:

1. Develop opportunities for clean energy and electrification
2. Develop opportunities for sustainable and healthy transportation
3. Develop natural streetscapes
4. Use sensors, data and advanced technologies



STRATEGY 4 FOCUS ON FINANCING

This strategy is to evaluate the options to fund Berkeley’s capital infrastructure and lifecycle maintenance needs. The studies will be conducted by Berkeley’s Finance Department and their consultants. The following summarizes our progress to date.

DESCRIPTION OF STRATEGY

Invest in our future

OUTCOME OBJECTIVES

To double capital spending and to fund lifecycle maintenance

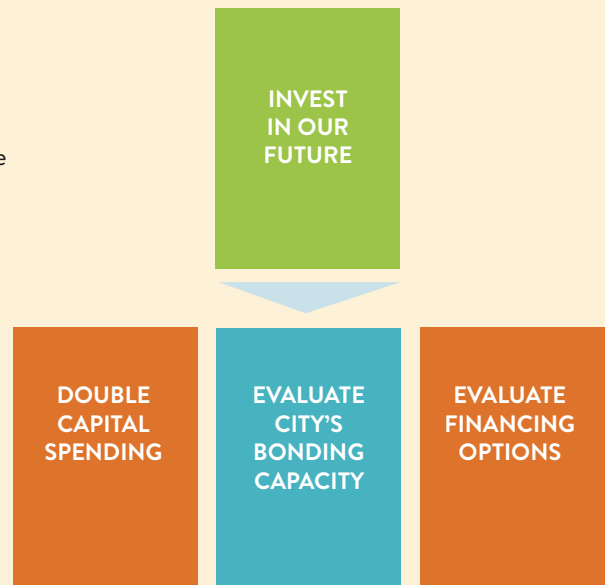
ACTIONS UNDERWAY

EVALUATE CITY’S BONDING CAPACITY

- Led by Finance dept.
- In process to select a consultant

EVALUATE FINANCING OPTIONS

- City’s financial advisor is running financial analysis on various revenue options and feeding results into process described on the following page



Much of Berkeley’s infrastructure – streets, roads, sidewalks, storm drains, parks, public buildings, – was built more than 75 years ago during the Works Projects Administration and is approaching the end of its lifespan. Aging infrastructure, in combination with exponentially worsening predictions of climate change impacts, could have serious consequences for Berkeley residents’ future.

NEXT STEPS:

1. Continue the Finance dept. and consultants’s existing work
2. Monitor the Biden administration’s legislation on infrastructure funding
3. Monitor grant funding opportunities
4. Complete the studies and transmit the reports to Council by Spring 2022



STRATEGY 5 IMPLEMENTATION

This strategy is to prepare key studies to help the Council decide if it wants to place an infrastructure revenue measure(s) on the November 2022 ballot. Important to this effort is holding community meetings to educate the public on our infrastructure needs, to ask for their input on infrastructure priorities and to develop an understanding on the level of funding. To help Council and the public understand what we are asking, we will prepare a Program Plan. This Plan is a 30-year outlook of the project elements, the schedule and sequencing of work, funding requirements, performance metrics and other information. In addition, we will evaluate the City's organizational structure, staffing and tools to deliver the program. This will build on the City's work with Measure T1 and other capital projects. The following summarizes our progress to date.

DESCRIPTION OF STRATEGY

To prepare the City's organization to implement a major capital program

OUTCOME OBJECTIVES

To have an organization with the structure, capacity and tools to deliver a major capital program

ACTIONS UNDERWAY

Consultants have been selected to conduct the following specialized studies:

COMMUNITY ENGAGEMENT

- Conduct community surveys
- Hold town halls and neighborhood group meetings
- Set up website

PREPARE A PROGRAM PLAN

- Define a 30-year multi-phase program of capital improvements
- Establish performance goals and metrics
- Provide independent oversight and reporting

EVALUATE CAPITAL PROGRAM DELIVERY

- Evaluate the organizational structure to deliver a major capital program
- Evaluate the staffing requirements
- Identify the needed resources and tools



NEXT STEPS:

1. Work with consultants to conduct the studies and transmit the reports to Council by Spring 2022

