



Office of the City Manager

WORKSESSION

March 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: *Turning Vision 2050 into Reality*: Public Works Capital Improvement Plan for Fiscal Year 2022SUMMARY

By this report, staff seeks City Council's input on Vision 2050 implementation and planned improvements to the City's public facilities and infrastructure for the Fiscal Year (FY) 2022 Proposed Capital Improvement Plan (CIP).

CURRENT SITUATION AND ITS EFFECTS

The CIP aims to maintain and improve our City's aged public infrastructure as best it can with the resources available. While our City's strategic goal is state-of-the-art, well maintained infrastructure, the lack of investment over many years in our infrastructure has resulted in something far short of that goal.

2021 marks the first year that Berkeley's unmet infrastructure needs will surpass \$1 billion. Without urgent action, Berkeley's infrastructure will continue to deteriorate, quality of life will suffer, and costs will escalate dramatically. For example, studies demonstrate that delaying infrastructure repairs can result in 3-4x repair costs later.

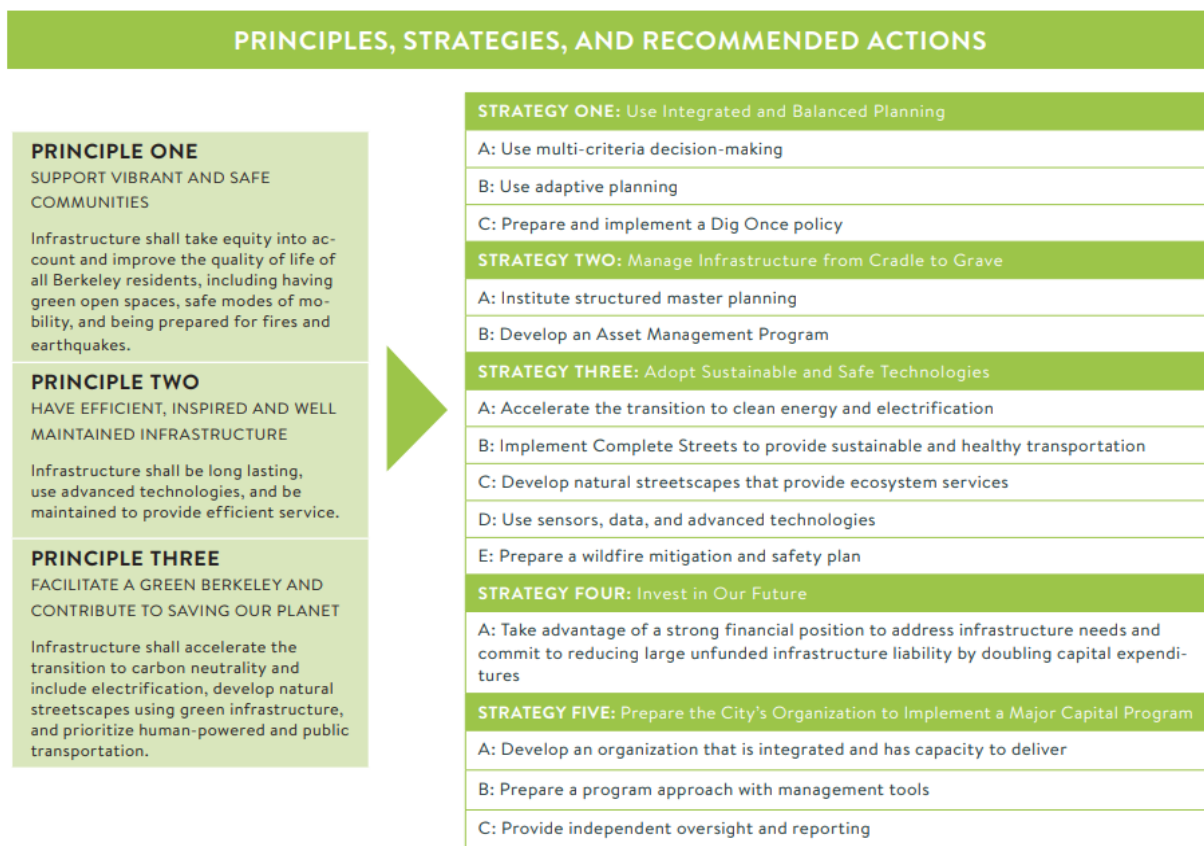
Despite enormous, unfunded infrastructure needs, the City's last three years represent a considerable uptick in investment in capital projects and infrastructure. Public Works and Parks, Recreation and Waterfront have demonstrated the ability to renovate deteriorated, outdated buildings, recreation centers, parks, and streets with state-of-the-art, well maintained infrastructure that is pleasing to the eye, resilient, and responds to our climate crises. These departments, in partnership with the Finance Department and City Manager's Office, have been able to deliver projects while keeping overhead low. In the first phase of T1, overhead costs were less than 11%. As the detailed CIP report from the Parks Department for the March 16, 2021 worksession shows, when our City is aligned on high-priority projects and dedicates the right staffing and resources, those projects can be delivered efficiently, even during a global pandemic.

Vision 2050. On the November 2018 ballot, Measure R 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?” 85% of voters approved.



Soon after, 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. Their report, *Sustainable and Resilient Infrastructure, Creating a Better Future for Berkeley*, was approved by City Council in September 2020.

The Vision 2050 framework identified four core values, three principles, five strategies, and recommended actions, as show in the chart below.



In December 2020, the City Manager convened an implementation team comprised of four key contributors to the Vision 2050 framework (Ray Yep, Margo Schueler, Gordon

Wozniak, and Tano Trachtenberg) and four key staff (Liam Garland, Scott Ferris, Andrew Brozyna, and Billi Romain). This team was tasked with turning Vision 2050 into reality and kicked off with a draft implementation plan. Input on the implementation plan was solicited from the members of Vision 2050's steering committee and the following commissions: Disaster and Fire Safety, Energy, Public Works, Parks and Waterfront, Transportation.

The implementation plan included the following near term actions:

- **Keep staff focused on delivery of current infrastructure improvements.** Much progress is being made with the construction of infrastructure improvements committed to in the FY2019-2021 CIP and Measure T1, Phases 1 and 2. Doing so is no small accomplishment amidst the City's pandemic response, 15%+ staff vacancies in the two main capital focused departments, and existing workload. In addition, this work advances key Vision 2050 elements, as building renovations promote sustainability and resilience by including solar, EV charging stations, battery storage, and seismic improvements. Paving projects incorporate green infrastructure and enhance safety for pedestrians and bicyclists. New sidewalk repair methods reduce greenhouse gases and expand access and safety for those with mobility impairments.
- **Propose a CIP that incorporates Vision 2050.** The City's adopted capital improvement program (CIP) is the City's definitive budget-related statement on public infrastructure. This will be the first adopted CIP that incorporates Vision 2050's strategies and begins to implement them.
- **Leverage Vision 2050 to take advantage of Federal and State support.** Staff and consultants are monitoring potential infrastructure funding from the new Federal administration, and resiliency and sustainability are likely to be criteria to receive that funding.
- **Submit Vision 2050 budget requests.** The process to develop Vision 2050 was wholly volunteer led. Implementing Vision 2050 continues with significant volunteer leadership, now in close coordination and collaboration with existing staff. However, no current funding is associated with Vision 2050. Staff is planning to include Vision 2050 budget requests for FY 2021-2022 that will advance each of the five strategies, as described below.

Should City Council approve the associated budget requests, the following actions can occur from July 1, 2021 through December 31, 2022:

- **Boost Master Planning.** As identified in the Vision 2020 Report, the City's current infrastructure planning is contained in over 20 reports dating back at least a dozen years. There are some aspects of our infrastructure that are well planned, such as our sewer collection system. It has both long-term plans, maintenance plans, and a dedicated funding source that is adjustable every five years. Other asset areas

either do not have master plans or planning is insufficient. These plans identified below each have dedicated special funding sources (not General Fund), and the plans themselves will help match available funding resources with needed projects and programs.

- Continuation of already-budgeted master plan for streetlights (\$200,000).
 - Continuation of already-budgeted master plan for storm water system, including drains, watershed, and green infrastructure (\$1.6 million).
 - Continuation of already-budgeted master plan for sewers (\$800,000).
 - Continuation of already-budgeted master planning and condition assessments for building facilities (\$100,000).
 - New request for \$100,000 in transportation funds for development of a long-term paving plan.
 - New request for \$75,000 to add or upgrade a position within the Engineering Division to *Capital Projects Manager, Vision 2050*. This position would be responsible for coordinating Public Works' various master plans, ensuring their update and consistency with Vision 2050, and implementing Vision 2050.
- **Expand capacity to implement sustainable and resilient infrastructure.** To expand staff's ability to develop sustainable and resilient infrastructure, Public Works will gain Envision¹ certifications, both for engineering and planning staff and projects (\$30,000 from non-General Funds).
 - **Adopt sustainable and safe technologies.** Renovation of City buildings will include installation of solar, battery storage, and EV charging. Implementation of the 2020 Municipal Fleet Electrification Assessment will continue, including installation of various charging stations and purchase of electric vehicles. New pervious concrete piloted in the 2021 paving project will be utilized in future paving projects. More green infrastructure will be installed throughout the City. To further reduce greenhouse gas emissions, staff are looking at programs and policies to replace natural gas use in buildings, and



Allston Paver Project

¹ <https://sustainableinfrastructure.org/envision/overview-of-envision/>

opportunities for the installation of solar and battery storage at critical facilities to provide clean and renewable energy during grid outages.

- **Increase capital investment to address infrastructure needs.** Consistent with Vision 2050's proposal to double capital investment, the implementation plan proposes preparing for an infrastructure-focused revenue measure in November 2022 through the following actions.
 - *Community engagement.* This would gain input from the community on infrastructure priorities and assess residents' willingness to support an infrastructure-focused revenue measure. The work could include a website, community forums, community surveys, community-wide mailers, and other activities.
 - *Conduct financial analysis and evaluate funding options.* There are various funding options to consider, and different asset groups have different funding options. Those options can be evaluated through financial analysis, including related to the City's ability to take on new debt due to the City's significant pension and other post-employment benefit liabilities. Consideration shall be given to funding options for capital improvements versus funding on-going maintenance. To turn Vision 2050 into reality will require capital projects that improve infrastructure from deteriorated to good condition, and proper maintenance (and funding) to keep infrastructure in that good condition.
 - *Program delivery assessment.* While the City has learned lessons from implementing Measure M and Measure T1, it will probably require a new organizational structure to deliver on a larger major capital program. To look more closely at our experience to date and learn from other cities implementing major capital programs, such as San Francisco and San Diego, staff will conduct an assessment that results in a proposed organizational structure that can deliver should a revenue measure be successful.
 - *Prepare a Program Plan.* The information gathered above will be compiled into a Program Plan. It will plan the construction of infrastructure improvements over a longer time period, describe financial analysis funding options, a project delivery approach, the community engagement process to date, and possible oversight if a revenue measure will be successful. City Council will consider the Program Plan in advance of an ultimate decision in June 2022 on whether to place an infrastructure-focused revenue measure or measures on the November 2022 ballot.

Staff estimate these actions would require a budget of \$400,000 from General Funds. Given time constraints, staff will prepare a request for proposals to issue in June and award a contract to initiate this work in July. Should City Council decide

against the development of the public engagement plan and program plan, the very minimum required would be \$150,000 for two community surveys and a comprehensive third party analysis of the City’s bonding capacity.

Streets. Public Works maintains 214 miles of street. The City’s paving condition has remained for more than 10 years in the at risk condition, and if nothing changes, these streets will be failing by 2050 and require \$1 billion to repair. As shown in the chart below, an infusion of \$306 million between now and 2030 would bring Berkeley’s streets into good condition, and if an additional \$8 million is infused annually, keep them in that good condition. Such an infusion may come from a revenue measure or measures.

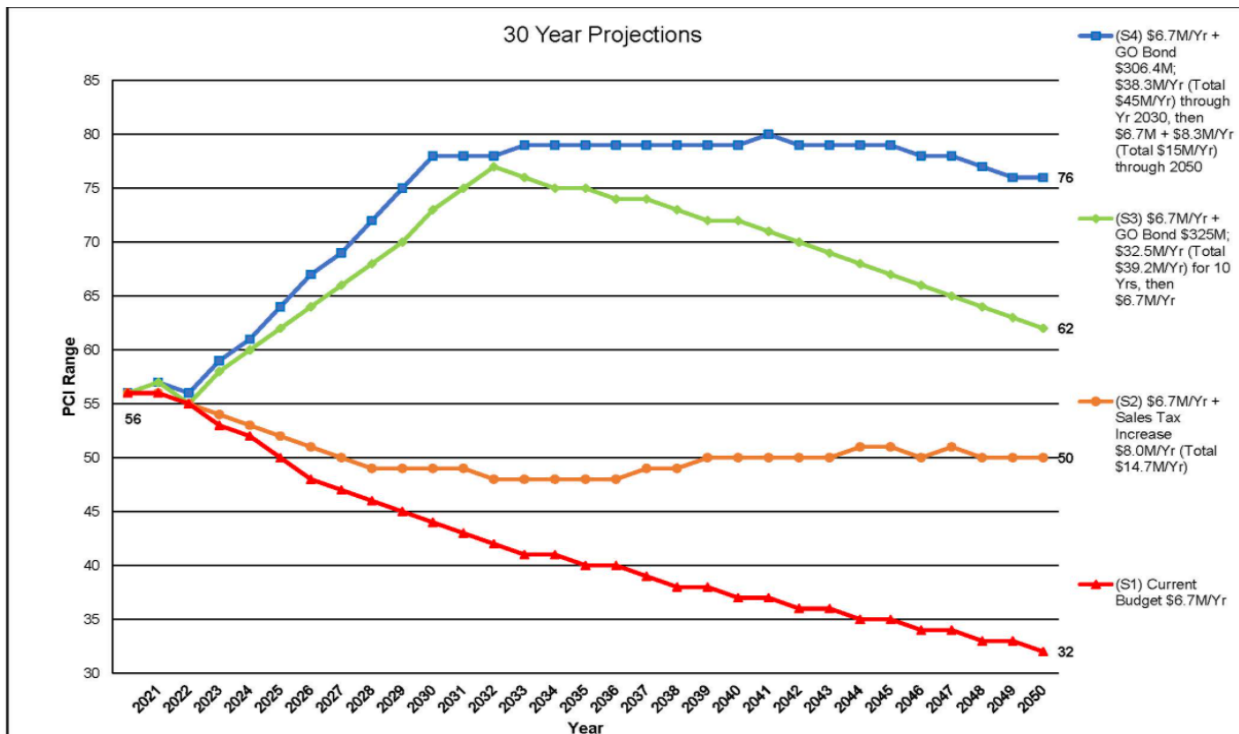


Figure 1 Projection of Paving Condition Per Four Funding Scenarios

Poorly maintained streets are inherently inequitable, as low-income residents are more seriously impacted by higher vehicle repair costs than higher income residents; those with mobility or visual impairments face greater challenges of unequal access and safety compared to those without such challenges; bicyclists and pedestrians face greater danger than those driving; and poorly maintained streets in dense, more populous neighborhoods are detrimental to more users than a poorly maintained street in less dense neighborhoods.

Between FY 19-21, Public Works paved 13.7 miles, including T1 segments at Ward, Monterey, Adeline, Hearst, and Milvia. Due to the infusion of T1, Public Works was able to more than double the prior average of 3.2 miles paved per year.

In the next two years, Public Works will invest \$14M in annual repaving funds along with the first \$3.75 million in T1, Phase 2 funds. This will enable paving of the first year of the

recently adopted Five Year Paving Plan, plus more. Elements included in paving include installation and/or upgrades of curb ramps and addition of transportation elements, such as a concrete island bicycle crossings, bicycle lanes, painted bulbouts, high visibility crosswalks, and bus boarding islands, and sidewalk repair among others.

The Public Works Commission and staff are currently developing the first update to the street rehabilitation and maintenance policy in 10+ years and incorporating equity directly in the updated policy.

Transportation: Berkeley's streets, sidewalks, paths, and public transportation system enable residents to travel within the City and beyond, to make progress toward a City free of serious injury or death related to this network, and encourage less dependence on solo commute driving.

A key component of traffic safety is the network of traffic calming installations across our city, as represented in the map below.

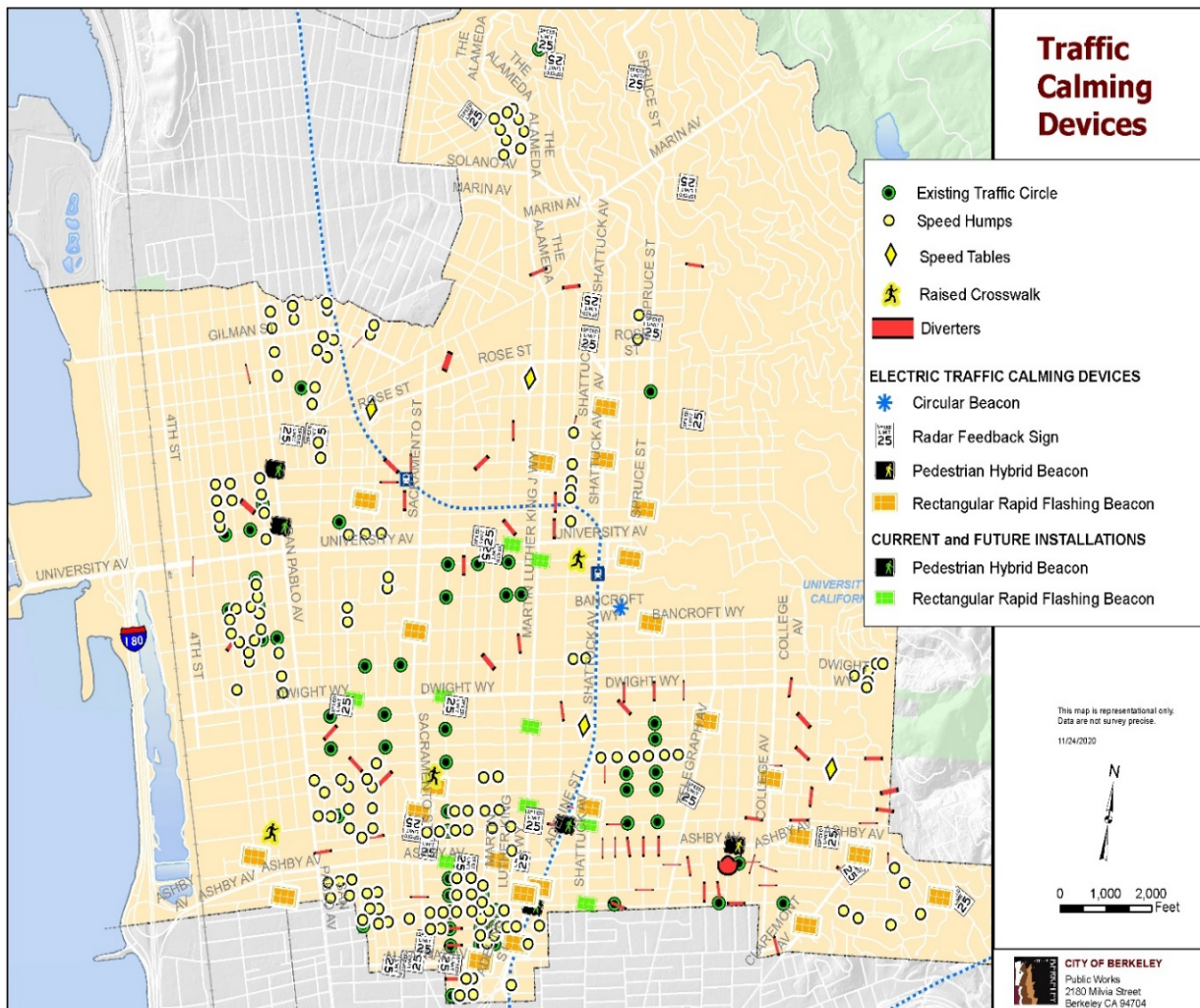


Figure 2 Traffic Calming Locations throughout the City



Adeline safety improvements were enabled by T1

The transportation component of the CIP implements the Berkeley Strategic Transportation Plan (2016), Bicycle Plan (2017), Pedestrian Plan (2020), and Vision Zero Action Plan (2020). Over the past two years, the result has been completion of the Shattuck Reconfiguration, Hearst Protected Bike Lanes, and Adeline Corridor Improvements. Construction commenced for the 9th Street Path and Crossing at Ashby and Sacramento Complete Streets project, and bidding is underway on the Gilman Interchange and Pedestrian

Overcrossing project. The Milvia Bikeway, Addison Bikeway, and University Avenue Bus Bulb projects had construction contracts awarded, the Southside Streets and Hopkins Corridor projects have commenced the planning phase.

In FY 21-23, Public Works will complete planning on Southside Streets, San Pablo at Ashby Intersection Improvements, and Hopkins Corridor projects; assist in the completion of the Gilman interchange and pedestrian overcrossing, construct improvements on Milvia and Addison, and update the Bicycle Plan and Berkeley Strategic Transportation Plan.

Public Works will also commence a concrete bus pad paving program to prevent deterioration of asphalt pavement at bus stop locations, thereby reducing the need for costly pavement repairs and ruptured pavement that causes problems for pedestrians, cyclists, and others.

Sidewalks: Public Works maintains 300+ miles of sidewalk citywide. An ADA evaluation of every city block of sidewalk is being completed by June 30, 2021, which will identify many more repair locations.

State law places responsibility for sidewalk repairs on adjacent homeowners. As a courtesy to its residents, Berkeley makes sidewalk repairs when the lift or failure is caused by the tree roots of a City-maintained street tree. Trees are only removed as a last resort, and all tree removals related to the paving or sidewalk programs require explicit authorization of the Public Works director. The City began to offer a program in 2011 that split sidewalk repairs 50/50 between adjacent property owners and the City, but that program was backlogged within several years. That backlog currently stands at 3,700 addresses. Public Works has been utilizing a concrete “cutting” service that enables the City to make many sidewalk repairs at a lower cost per repair, and helps address the climate crises by reducing greenhouse gas emissions through reduced reliance on concrete.

Over the last two years, staff have completed 3,600 repairs at 725 addresses. This has reduced the backlog in the 50/50 program by 25%. With existing funds and an infusion from T1, Public Works is on course to invest another \$3.8M in 6,000 sidewalk repairs at

1,800 addresses in the next two years. As a result, the backlog of repairs in the 50/50 program should be reduced by 75%.

Green Infrastructure, Creek Restoration, and Storm Drains: Green infrastructure (GI) slows or divert stormwater runoff, prevents pollution such as PCBs and trash from reaching the Bay, and can recharge groundwater. Incorporation of these projects beautifies the City and advances the City’s goal of being a global leader in addressing climate change, advancing environmental justice, and protecting the environment. Examples of GI include the permeable pavers on Allston Way, as well as bus pads, parking lanes, and crosswalks throughout residential neighborhoods in the City. Bioswales at the corner of Hearst Street and Oxford Street, at the intersection of Hopkins Street and Rose Street and at Presentation Park have also been constructed. The map below shows the 30 City-owned GI installations.

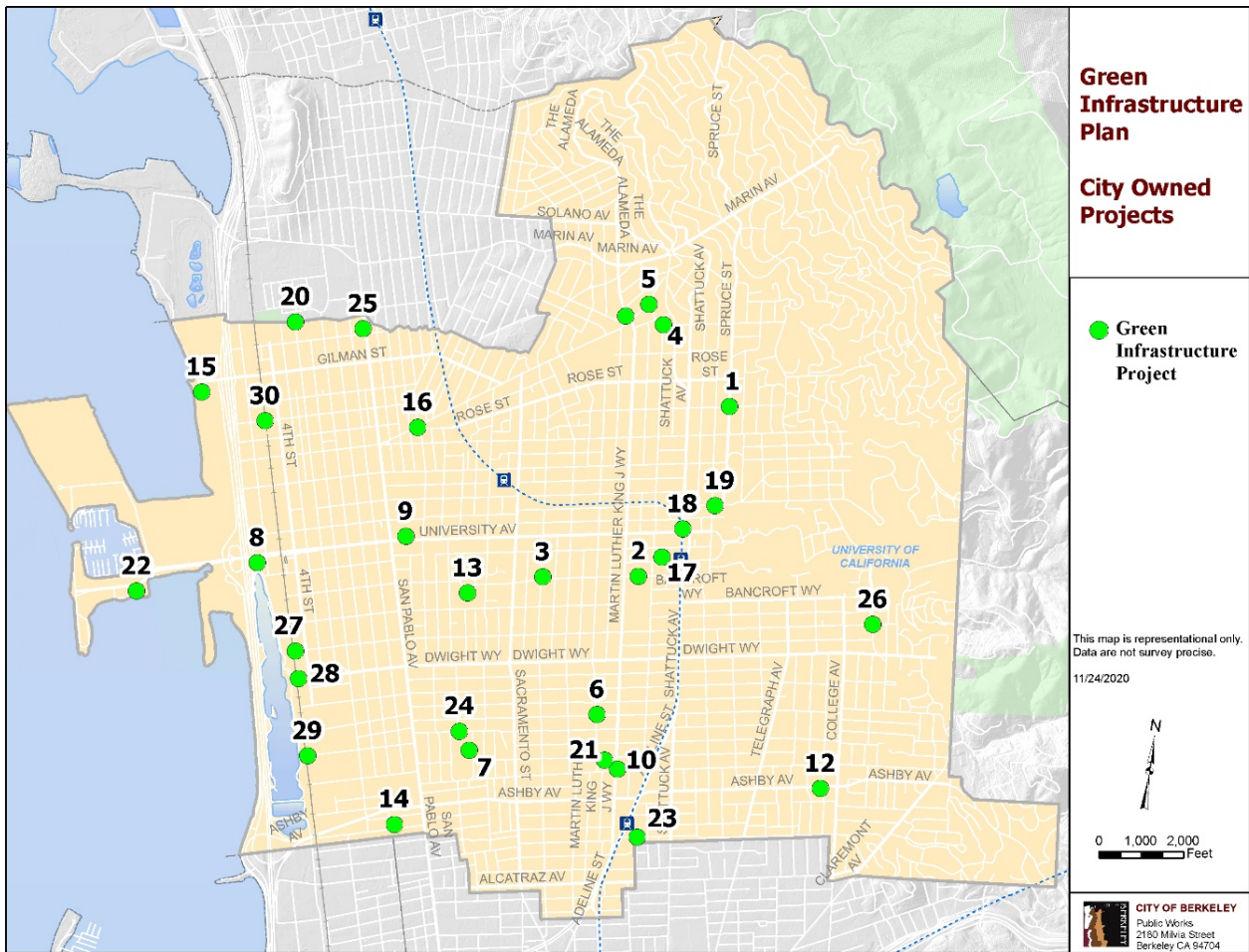


Figure 3 City owned GI Installations

In FYs 2019-2021, Public Works completed a pervious concrete project on Ward Street; GI installations at Grayson, Dwight, Page, Piedmont Avenue Traffic Circle and Medians, and Woolsey; and the Codornices Creek restoration at Kains. In all, Public Works has installed nine bioretention basins in the last two years.



Piedmont Circle GI

For the next two years, bioswale projects are planned for 9th and 10th Streets at Codornices Creek. These bioswales will have a collective potential treatment area of 2 acres. Staff are also considering feasibility studies for a GI project at the Sacramento Street medians and land along the former Santa Fe Railroad right-of-way. Staff also will complete a master plan for stormwater infrastructure, which will incorporate updates to the 2012 Watershed Plan and 2019 Green Infrastructure Plan, updates to the City's existing hydraulic

model for the storm drainage infrastructure, condition and capacity assessments, and prioritization of future capital improvement rehabilitation needs for the City's storm drainage program. In addition to GI, the City's engineered storm drain infrastructure consists of approximately 78 miles of underground pipes, maintenance-holes, catch basins and cross-drains. This stormwater infrastructure is over 80 years old and has an estimated \$246 million in deferred maintenance.

Streetlights. There are a total of 8,011 City-owned streetlights of which 4,499 fixtures are mounted on PG&E's wooden poles and the remaining 3,512 are mounted on City-owned poles. In FY 19/20 approximately 75% of City street light fixtures were replaced with refurbished LED fixtures that increased energy efficiency and further lowered operating costs. In the next FY, Public Works will complete a Streetlight Master Plan. The Master Plan will help support Public Works in its mission to fund, operate, and maintain its street lighting infrastructure, develop standards to guide streetlight pole replacements, ensure the City's streetlights are maximizing traffic safety benefits, and match the Streetlight Fund's assets with planned streetlight installations.

Sanitary Sewer. There are 254 miles of sewer mains and 130 miles of sewer laterals. More than 90% have been replaced since the current program began in 1987, with some of the oldest, hardest-to-replace sewers remaining. As part of obligations under a 23-year agreement with the United States Environmental Protection Agency, State and Regional Water Boards, and others, Public Works rehabilitates an average of 4.2 miles of City owned sewer main and associated lower laterals per year. Public Works also administers the Private Sewer Lateral (PSL) Ordinance to address the sewer pipes located on private property owned and maintained by the property owner portion of the sewer laterals (on private property). Taken in combination, the sewer main and lower lateral rehabilitation, and the PSL programs represents a comprehensive approach to attack the problem of water entering the sewer system and contributing to sewer overflows. In FYs 19-21, Public Works rehabilitated 12.7 miles of sewer. In FYs 2021-2023, Public Works will rehabilitate another 12.6 miles of sewer and complete the Sewer System Master Plan.

Facilities. Public Works maintains 56 public buildings and estimates the deferred maintenance in these buildings at \$250M. Where renovations occur, staff seek opportunities to add solar systems, battery backups, electric vehicle (EV) charging stations, and electrification. The City performs condition assessments every 5-10 years, which are used to prioritize facility projects. Additional facility projects are identified by departments. Before the end of this fiscal year, Public Works will start the process to develop a facilities master plan and conduct another 5+ condition assessments on critical buildings.

The following was accomplished in FYs19-21: Adult Mental Health Upgrade (T1 project), North Berkeley Senior Center Upgrade (T1 project), Corp Yard Building G Electrical Upgrade (T1 project), Marina Corp Yard Electrical Upgrade, Public Safety Building Leak Repair, Carpet Replacement at Civic Center, Fire Station 2 Kitchen, Fire Station 3 Roof Repair, and 125/27 University Building and Parking Upgrades (T1 project).

The following is proposed to be accomplished in FYs 21-23: South Berkeley Senior Center Seismic Upgrade (T1 project), 2+ Public Restrooms in Right of Way (T1 project), Corp Yard Facility Improvements (Building B and H), 1947 Center Street HVAC System Upgrade (T1 project), Fire Station 2 and 6 Upgrades, Corp Yard EV Charger System, West Berkeley Service Center Upgrade, Fire Warehouse Office Upgrade, Telegraph Channing Elevator Upgrade, Stair Center Water Meter Replacement, Fire Station 3 Roof Replacement, Leak Evaluation and Design Old City Hall and Veterans Building.

Future facility improvements will incorporate EV charging stations per the schedule below. To keep on schedule, Public Works will require an additional \$850,000 to accomplish charging station installation at the Corp Yard by April 2022.

Facility Name	Chargers	Installation Status
Center Street Garage 2025 Center	28 dual-head, 1 single L2 (existing)	Installed and in service
Mental Health Clinic 2636/2640 MLK	2 dual-head L2	Installed 1 dual head L2. Ready for add'l dual head at \$25k in FY 22/23.
Berkeley Transfer Station, 1201 Second	1 dual-head L2	Will install March 2021, 1 dual head L2
North Berkeley Senior Center, 1901 Hearst Ave	1 dual-head L2	Will install Aug 2021, 1 dual head L2
Corp Yard, 1326 Allston	4 dual-head L2, 1 DCFC	Seeking \$850,000 for Apr 2022 installation, enabling up to 100 chargers
South Berkeley Senior Center, 2939 Ellis	1 dual-head L2	1 dual head in T1, Phase 2 Project
Mental Health Clinic 1890 Alcatraz	1 dual-head L2	1 dual head in T1, Phase 2 Project
Berkeley Marina 125/127 University	4 dual-head L2	Proposed FY 22/23 (\$80k). Need new PGE service, more charging stations, and right features for 2026 deployment of 27 <u>PEO</u> scooters. No charger \$s.
Civic Center, 2180 Milvia	2 dual-head L2	Proposed FY 22/23 (\$95k)
Public Safety Building 2100 MLK	1 dual-head L2	Proposed FY 22/23 (\$35k)
Central Library Parking Lot, 2031 Bancroft	1 dual-head L2	Proposed FY 23/24 (\$40k)
Adult Mental Health Clinic, 1521 University	3 dual-head L2	Proposed FY 23/24, but this is a leased facility.

Undergrounding. The Utility District (UUD) No. 48 project will underground the overhead utilities in the Grizzly Peak area of Berkeley. The district includes 175 parcels along Grizzly Peak between Hill Road and the southeastern City limit. Despite decades of delay, the project is expected to go out to bid at the end of March 2021 with community meetings in June and July and construction beginning in September 2021.

In addition, City Council has received the Phase 3 report on undergrounding utility wires. This report identified 15.1 miles of priority locations for undergrounding, including specified evacuation routes. The report estimates \$90 million to complete this work at an average cost of \$6 million per mile.

Future Editions of this Report. This is the first CIP worksession report to incorporate Vision 2050. In future iterations, the Vision 2050 elements and CIP will be intertwined so that neither is distinguishable from the other. A shorter version of the City's CIP book will be produced and completed by May 15, 2021 titled *Turning Vision 2050 into Reality: CIP in Brief*. That document will identify particular CIP projects with the Vision 2050's values of equity, public health & safety, strong local economy, and resiliency & sustainability.

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