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**2020 Proposed WORKING DRAFT VERSION 6:** Los Angeles River Master Plan Update  
August 2019

*(Currently this summary is in present tense, and in its final version it will become past tense.)*

## Vision: The Reimagined River

The **iconic** LA River **flows through a 51-mile connected public open space that is seamlessly woven together with neighboring communities.** It is an integral part of daily life in LA County—a place to enjoy the outdoors and to get across town, a place to appreciate the serene and to bring all people together, a place to celebrate a thriving urban habitat and respect feats of infrastructure, a place to learn from the past and to shape the future.

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### Executive Summary

One million people live within one mile of the Los Angeles River. More impressively, one out of four Californians lives within **a one-hour drive** of the river. Channelized to protect lives and property from flooding during the late 19<sup>th</sup> through the mid-20<sup>th</sup> centuries, the Los Angeles River has largely been separated from our social and ecological communities. While fragmented jurisdictions, land ownership, and funding present hurdles in rethinking the LA River, the 2020 Los Angeles River Master Plan seeks to **build on prior planning efforts to continue to** reimagine the LA River from a single use corridor to a tangible, multi-benefit resource for the communities of Los Angeles County, while still meeting the needs of flood risk management. The 2020 Plan recognizes the need for resilient systems that address the most complex issues facing the Los Angeles Region, such as climate change, population growth, resource scarcity, and social inequity. These resilient systems are necessary to create fifty-one miles of connected open space that includes clean water, native habitat, parks, recreation, multiuse trails, art, and cultural resources to improve human and **ecosystem** health, equity, access, mobility, and economic opportunity for the diverse communities of LA County, while providing flood risk management.

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The 2020 Los Angeles River Master Plan builds on over two decades of planning [and implementation](#) efforts for the Los Angeles River, including efforts by LA County (1996), the City of Los Angeles (2007), the [Los Angeles River Ecosystem Restoration Feasibility Study \(2016\)](#), [the Lower LA River Working Group \(2018\)](#), and the Upper LA River and Tributaries Working Group (2019). The research and project database that forms the foundation for this plan covers over 130 planning efforts from across the watershed.

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The 2020 Master Plan Update process began in 2016 with a motion by the Board of Supervisors to update the 1996 Los Angeles County LA River Master Plan. The update process, led by Los Angeles County Public Works, is supported by an Internal County Team with representatives from each LA County department. A Steering Committee of 41 members representing municipalities, non-profit organizations, or other governmental and non-governmental entities provides input and expertise in issues related to water, people, or the environment. In addition to the technical team and steering committee, the update process includes a robust public engagement program designed to provide opportunities for LA County residents to express ideas for the future of the river.

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The 2020 Master Plan is based on a watershed and community approach. This approach is unique from previous efforts in that analysis work, including ecosystem, demographic, and hydrologic studies were conducted for the entire 834 square mile watershed. Recognizing that these systemic and natural elements cannot be studied in isolation, several studies [included information for areas outside](#) the watershed. This research is now publicly available and can be utilized for parallel efforts within the watershed.

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There is no singular, 51-mile solution for the LA River. Projects along the river should reflect the needs and opportunities of specific reaches and provide multiple benefits. [Projects should](#) respect the needs of flood risk management while enhancing the environment and strengthening our communities through the celebration of local culture and creation of jobs. While design strategies in the Master Plan focus on elements along the main stem within and immediately adjacent to the river right-of-way,<sup>1</sup> the Master Plan's vision, goals, actions, and methods require an understanding of, and coordination with, communities, the watershed, and parallel efforts such as the Upper River and Tributaries Working Group (AB466), the Lower LA River Working Group, Metro, the Regional Water Quality Control Board, the LA County General Plan, the LA County Sustainability Plan, the [City of Los Angeles' LA River Revitalization Master](#)

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<sup>1</sup> The LA River Right-of-Way is within the operations and maintenance jurisdiction of Los Angeles County Public Works (Flood Control District) and the United States Army Corps of Engineers (USACE).

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Plan, the LA County Regional Parks Needs Assessment, the Department of Arts and Culture Cultural Equity and Inclusion Initiative, and watershed management plans. Additionally, coordination between LA County, municipalities, other governmental entities, and non-profit organizations will be necessary to achieve the robust vision and goals of this Master Plan. The Reimagined LA River relies on these collective efforts to envision the future of the LA River, its watershed, and all of LA County.

### Goal-Driven Framework and Plan Summary

The 2020 LA River Master Plan is organized based on a series of goals, actions, and methods. Each goal represents an active future priority for the LA River. These goals, which include many principles from previous or parallel planning efforts, guide policy and project development throughout the Master Plan.

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Supporting each goal, a series of actions describes steps that should be taken to achieve the goal. Actions include a series of tangible methods that describe specific ways to reach the goals. In many cases, actions are related to specific LA County Departments and their missions. The realization of the goals will require collaboration between many LA County departments.

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Realization of the Master Plan's goals will require the coordination and implementation of site-specific and system-wide projects. For each goal, a comprehensive, data-driven analysis of existing conditions identified areas of need or high need.

At a site scale, the areas of need were then overlaid with land assets to determine how much impact each opportunity site could have on achieving the goals of the Master Plan. These potential opportunity sites were then compared against projects currently in development to assess whether these projects are already meeting identified needs. In addition, the cadence of projects along the entire 51-mile LA River Corridor was considered to ensure an equitable and accessible distribution of projects. The ultimate purpose is to create multi-benefit projects that address many needs at a given site.

In parallel with the identification of needs and opportunity sites, a "kit of parts" made up of urban river design typologies was developed to illustrate the range of possible strategies that LA County and other entities can utilize along the river. Each element in the kit of parts correlates with the needs that strategy can address. Foundational principles related to design excellence, connectivity, ecological function, water quality, and art should be considered for all projects. Common elements, such as benches, lighting, and pavilions should be used as required by projects to address the overall cadence of amenities.

The associated LA River Design Guidelines support the development of specific design and technical solutions for the concepts described herein, including plant communities, soils, materials, signage, and other common elements.

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At the system-wide scale, the Master Plan identifies projects that integrate and, over time, aggregate, numerous sites into a larger network to achieve goals such as water recharge, flood risk reduction, ecological function, water recharge, and housing affordability.

Through the development of a connective 51-mile open space network for all of Los Angeles County, health outcomes along the most environmentally burdened corridor of the county will be significantly improved, reducing incidence of cardiovascular diseases and diabetes. The river will become a force for equity and provide natural and recreational open space for millions. Biodiversity and meaningful habitat will be enhanced and protected along critical river reaches. Flood risk mitigation will incorporate planning for climate change, increases in heat, sea level rise, and changes to precipitation and land use patterns. The reimagining of the LA River as a valuable asset will also be paired with strategies that seek to mitigate economic displacement and protect the affordable housing in neighboring communities.

### **Role of the County and Coordination**

Similar to the 1996 LA River Master Plan, the 2020 Plan will be used to guide all departments of LA County in decision making for LA River projects and facilities owned, operated, funded, permitted, and/or maintained by the County. Other agencies and municipalities are encouraged to adopt the LA River Master Plan for their jurisdictions and communities and partner with LA County in making the Reimagined River a reality.

The LA River Master Plan will help ensure a Reimagined LA River by:

- Establishing a comprehensive long-term vision for the river that is based on robust community engagement.
- Utilizing a goal-based framework for policy and design.
- Identifying goals, actions, and methods that will be undertaken by LA County along the LA River corridor and throughout the watershed to achieve the vision for the river.
- Identifying strategic partnerships between LA County and other entities that will be needed to meet the full realization of the goals, actions, and methods.
- Identifying how LA County can support other entities in meeting the goals, actions, and methods.
- Promoting design excellence.

Public Works shall establish an implementation team responsible for ongoing coordination after the completion of the Master Plan.

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## 1. Goal: Reduce flood risk and improve resiliency.

The LA River did not always look like it does today. In the mid 1800's, the LA River was a braided stream that, during wet weather events, spread out over vast amounts of flat land. As agricultural diversions, transportation infrastructure, and cities grew around the river, this vast floodplain was encroached upon by buildings and roads. After years of devastating floods, it was engineered into a concrete channel with basins, dams, levees, and floodwalls to move stormwater as quickly as possible to the Pacific Ocean in order to reduce flood risk to these communities. Not all areas of the river have equal conveyance capacity. In some areas, low channel capacity makes the probability of flooding of the river adjacent communities in any given year as high as 25 percent. This is partially due to deferred operations and maintenance caused by funding constraints. There will always be financial and physical limits to flood risk infrastructure. Therefore, we must strive for resilient communities that can respond to extreme flood events that exceed the river channel's capacity. With the threat of a changing climate, the importance of reducing flood risk increases as the frequency and intensity of extreme storms change.

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### 1.1. Maintain existing flood carrying capacity of all reaches of the LA River channel.

Levels of flood risk management vary along the 51-mile channel. Because development up to the channel's edges has nearly completely encroached upon the floodplain, it is critical to maintain the existing capacity and not reduce the flood carrying capacity of any reach of the river.

1.1.1. Review new projects within and along the LA River to ensure that flood risk is not increased.

1.1.2. Review new projects with in-channel components to ensure the flood carrying capacity of the river is not reduced.

### **1.2. Increase capacity of the river in high risk areas to provide flood risk reduction to at least the one-percent ("100-year") annual chance flood event.**

One way to reduce flood risk in communities near the LA River is to increase the conveyance capacity of the river, so that it can safely pass larger storm flows to the Pacific Ocean.

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1.2.1. Purchase or repurpose land along the channel and immediately adjacent areas to increase width and capacity of the river, and encourage acquisition of land within the floodplain to serve as a buffer for flooding.

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1.2.2. Prioritize natural features and processes for flood risk reduction.

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1.2.3. Deepen the channel or raise levees.

1.2.4. Build bypass channels and tunnels.

1.2.5. Remove invasive plants from the channel.

1.2.6. Manage sediment and invasive plants using best practices before they accumulate in the river channel.

1.2.7. Manage dry-weather flows to discourage the growth of invasive and non-native vegetation within the flood channel.

1.2.8. Retrofit infrastructure and other obstructions, such as bridges, to remove hydraulic constrictions.

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**1.3. Reduce peak flood flows into the river.**

In addition to increasing capacity of the river, flood risk can also be improved by reducing the amount of water that enters the LA River. Upstream storage or detention facilities, such as dams, help to store runoff during large storm events and slowly release the water so as not to exceed the downstream channel capacity.

- 1.3.1. Evaluate regional scale upstream dams and detention basins.
- 1.3.2. Increase capacity of existing dams and detention basins.

**1.4. Include climate change research in the planning process for new projects along the river.**

Current infrastructure in and along the LA River was designed based on historic climate data. However, a changing climate is likely to increase the frequency of extreme precipitation events that result in flows that exceed the channel's current capacity. New projects along the LA River must consider the long-term impacts of climate change and the need to incorporate resilient infrastructure to handle these extreme events.

- 1.4.1. Conduct inter-institutional study on climate change impacts in the LA Basin and how they impact hydrology and sea level rise.
- 1.4.2. Apply latest accepted climate change prediction models in flood risk reduction planning.

**1.5. Update and improve emergency preparedness.**

Flood infrastructure cannot prevent or mitigate flooding in every extreme storm event, so communities in the floodplain that are protected from routine floods must still be prepared. The LA River is flashy, meaning water levels in the river can rise rapidly in a matter of hours. Having emergency action plans in place, practicing those plans, and installing effective communication protocols can reduce response times and save lives.

- 1.5.1. Develop appropriate Emergency Action Plans that cover specific areas of the river where needed, including the dams and levees along the mainstem and the tributaries.
- 1.5.2. Conduct emergency preparedness exercises that test Emergency Action Plans.
- 1.5.3. Improve flood forecasting capabilities and monitoring for the river corridor.
- 1.5.4. Update and improve flood inundation maps.
- 1.5.5. Develop appropriate warning systems such as sirens, lights, or geo-targeted text message alerts to inform users of impending rain or rising water.
- 1.5.6. Evaluate critical infrastructure and facilities located in the floodplain and reduce vulnerability to flood hazards.
- 1.5.7. Review and revise policies regarding closing the river trail during storms.
- 1.5.8. Assist emergency managers, local law enforcement, and emergency responders in developing emergency response/evacuation plans for river adjacent communities, river users, and special needs populations.

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**1.6. Increase public awareness of flood hazards and river safety.**

Although flooding is the most common type of natural disaster in the country, the threats of flooding are often discounted by residents of Los Angeles County. The lack of recent floods coupled with severe droughts have rendered most people living adjacent to the LA River unaware of potential flood risk. People who understand their own flood risk are more likely to take actions to reduce their risk and stay safe during a flood.

- 1.6.1. Develop a website to assist in educating other agencies, cities, and the general public on river issues (including flood risk management and dangers posed by the river during heavy rainfall events).
- 1.6.2. Post consistent signage and communication about flood risk and river safety on bridges and access points.
- 1.6.3. Develop and implement an educational program on flood and river safety.
- 1.6.4. Encourage river adjacent residents and businesses to develop tailored emergency and evacuation plans.
- 1.6.5. Encourage residents and businesses in the floodplain to purchase flood insurance.

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**1.7. Improve flood facility operations and maintenance.**

Dams, levees, channels, and other flood management projects, like all infrastructure, require proper operations and maintenance. Investment in proper operations and maintenance of LA River infrastructure can increase its effectiveness and lengthen its useful life, providing a greater return on initial capital outlays.

- 1.7.1. Expand coordination between responsible flood management agencies and consolidate responsibilities under the Los Angeles County Flood Control District through divestiture to streamline O&M, facility management, funding, and permitting.
- 1.7.2. Manage sediment and vegetation in the river channel.
- 1.7.3. Implement new technologies such as real-time monitoring, reporting, and controls.
- 1.7.4. Update the flood risk and pumping plant telemetry systems.
- 1.7.5. Update and improve the mapping of the watershed's storm drains, channels, access, and jurisdictional ownership.
- 1.7.6. Implement dam and levee safety programs that ensure the flood management infrastructure delivers their intended benefits while reducing risks to people, property and the environment through continuous assessment, communication and management.

**1.8. Implement consistent floodplain management practices across the region.**

Floodplain management is fundamental to reducing losses from floods. Adopting regionally consistent floodplain management practices, such as managing development in the floodplain, will help to reduce potential catastrophic flood damage and improve community resilience to flooding.

- 1.8.1. Establish minimum floodplain regulatory requirements across jurisdictions.
- 1.8.2. Update and improve hydrologic data and models for the LA River watershed.
- 1.8.3. Update and improve flood inundation mapping.
- 1.8.4. Manage floodplain development and support community activities in coordination with the National Flood Insurance Program (NFIP).
- 1.8.5. Support communities in maintaining and improving their Community Rating System scores.
- 1.8.6. Encourage only flood resilient projects in the floodplain.

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## 2. Goal: Provide equitable, inclusive, and safe parks, open space, and trails.

Members of the community identified walking and bicycling as the top two activities they participate in along the river—with participation in these two activities together greater than the participation all other activities combined. Yet, 61% said they do not use the river due to safety concerns. Twelve of seventeen cities along the LA River do not meet the World Health Organization's minimum standards of 2.2 acres of parks per thousand people, and only 31 of the river's 51 miles have trails alongside them. By aiming to provide 51 miles of safe, connected open space, the LA River can be a valued recreational resource for the surrounding communities in LA County.

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### 2.1. Create 51 miles of connected open space along the river.

The LA River could serve as a 51-mile open space spine across LA County. This open space spine would be unique within the county, providing park space to underserved adjacent communities with little room to site new parks, while serving as a destination for the entire county and beyond, offering a variety of experiences from one mile to the next.

- 2.1.1. Create a park setting along the entire river that is integrated with native ecology, utilizing this plan's design guidelines (LA River Design Guidelines).
- 2.1.2. Utilize river channel right-of-way and adjacent areas to increase park space.
- 2.1.3. Promote the river as a central greenway of the larger LA County regional parks, multi-use trails, habitat, and open space network.
- 2.1.4. Use river channel right-of-way and adjacent areas to assist in ensuring all LA County residents live within a ½ mile of a park.
- 2.1.5. Create two new regional parks south of Downtown LA and one new regional park west of Sepulveda Basin, while continuing the development of large regional parks currently underway.
- 2.1.6. Provide river-oriented and other amenities and experiences in existing and new park spaces that are not currently available at nearby parks and increase unique programming along the river corridor.
- 2.1.7. Preserve and create viewsheds along the river, to the river, and from bridges over the river.
- 2.1.8. Secure ongoing and long-term funding for land acquisition, construction, and maintenance of additional parks and recreational facilities.
- 2.1.9. Increase recreation uses within the corridor where compatible with ecological function, safety, and maintenance.

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**2.2. Complete the LA River Trail so that there is a continuous bicycle and pedestrian route along the entire river, and encourage future routes on both sides where feasible.**

As a recreation and transportation route, the LA River Trail serves multiple purposes. However, it has yet to live up to its full potential because it is fragmented. A continuous route along the entire river would serve as a major bicycle and pedestrian artery through LA County, offering short- and long-distance routes for cyclists and pedestrians that are protected from vehicular traffic. Not only would the trail itself provide a new experience, but the connections it would make between parks, trails, job centers, and other destinations would make an abundance of nearby experiences more accessible to those who could access the river.

- 2.2.1. In places where right of way is too narrow for a river trail, pursue easements on adjacent property to complete the trail or utilize bridges, platforms, or cantilevers.
- 2.2.2. Increase the extent of multi-use trails parallel to the river with separate paths for active transport, pedestrians, and equestrians, especially in areas of high traffic.
- 2.2.3. Provide bicycle parking and encourage bicycle rental facilities and bike share along the river.
- 2.2.4. Develop signage and curriculum that promotes the benefits of using the river trail for recreation and improved health.
- 2.2.5. Include shade trees and shade structures along the trail (LA River Design Guidelines).
- 2.2.6. Design the LA River Trail to minimize negative effects on adjacent sensitive habitat areas.
- 2.2.7. Provide consistent, wildlife and dark-sky friendly lighting along the LA River Trail.

**2.3. Provide support facilities at a regular cadence along the length of the river, on both sides.**

Basic amenities, such as signage, benches, and water fountains, make casual and experienced users more comfortable. In addition, the climate in LA County makes for many hot days throughout the year that can negatively affect usage. Shade and water can mitigate these effects.

- 2.3.1. Ensure there is a shaded place to rest every half mile, on average, along the river.
- 2.3.2. Ensure there is access to a public restroom every mile, on average, along the river.
- 2.3.3. Ensure there is wayfinding information at river access points and every half mile, on average, along the river.
- 2.3.4. Supplement County facilities and services and River Rangers programs with concessionaire agreements for food, convenience item sales, recreation equipment rentals, recreation instruction, and guided tours.
- 2.3.5. Ensure there are trash receptacles, bicycle repair stations, drinking fountains, and other common elements at a regular cadence along the river on both sides, (LA River Design Guidelines).

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**2.4. Ensure design excellence within and along the river corridor.**

Excellence in design enhances function. From the earliest stages of project development, it is important to consider how a project can be beautiful while addressing multiple needs of adjacent communities. Design excellence requires an attention to quality of built structures, the landscape, the way buildings and landscapes interact with each other, and how projects interface with the river and surrounding communities. Elevating the quality of design along the LA River will also serve to elevate the level of design across LA County.

- 2.4.1. Utilize unified design guidelines for adjacent parks and river amenities that are flexible enough to reflect the diversity of local communities (LA River Design Guidelines).
- 2.4.2. Encourage local jurisdictions to adopt this plan's design guidelines (LA River Design Guidelines).
- 2.4.3. Require this plan's guidelines (LA River Design Guidelines) be followed for all projects permitted by the County, constructed on County property, or funded by the County.

**2.5. Encourage compatibility of the river and adjacent land uses.**

The appeal of the LA River corridor can be undercut by adjacent uses that are off-putting due to safety, smell, pollution, or noise. Large blocks of incompatible adjacent uses could act as or be perceived to be a barrier to access to the river. Conversely, complementary land uses can be mutually beneficial. For example, adjacent open spaces, restaurants, or retail that connect with the river could encourage patrons to use the river trail, and users of the river trail could increase patronage of those adjacent uses.

- 2.5.1. Encourage the entire river channel and corridor to be zoned as open space.
- 2.5.2. Encourage the re-zoning of incompatible land uses, such as waste sites, adjacent to the river, where feasible.
- 2.5.3. Develop buffering strategies to mitigate air quality and other impacts of incompatible uses, such as industrial uses, that are expected to remain adjacent to the river.
- 2.5.4. Use County and local development and zoning review processes to ensure compatibility and, where feasible, add new river-adjacent amenities.

**2.6. Repurpose single-use spaces, such as power-line easements, rail rights-of-way, or flood infrastructure, to serve multiple functions such as multi-use trails or habitat.**

LA County cannot afford to have spaces that serve only a single purpose. With little vacant land and relatively high property values and construction costs, multiple uses are necessary to ensure benefits outweigh costs.

- 2.6.1. Develop master agreements with utilities for easements to maximize use of ground space under overhead or above buried utility lines for parks, open space, and trails.
- 2.6.2. Discuss options to create multi-use space with private rail companies.
- 2.6.3. Foster opportunities for urban agriculture to encourage access to local healthy foods.

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**2.7. Promote life safety along the river.**

A reimagined river is intended to draw more people to use the river corridor. With increased usage comes a responsibility to ensure the safety of those users through increased awareness, hazard mitigation, and emergency response.

- 2.7.1. Improve safety signage, including what to do in an emergency.
- 2.7.2. Utilize this plan's consistent 51-mile marker system (0 at Long Beach, 51 at Canoga Park) to assist response teams in locating emergencies along the river.
- 2.7.3. Ensure anchor points for swift water rescue teams.
- 2.7.4. Remove hazards and dangerous objects, such as old fencing, metal, or debris, from the river corridor.

**2.8. Promote public safety along the river.**

Community members named safety as the top reason they do not use the LA River. Improving the perception of safety means addressing physical and perceptual factors. Physical factors include having appropriately scaled railings and a path that is clear of debris. Perceptual factors include adequate lighting and "eyes on the river" by other users, security officials, or adjacent uses.

- 2.8.1. Coordinate with the River Rangers program [on responsibilities related to implementation of safety measures.](#)
- 2.8.2. Ensure adequate and consistent lighting along the river trail that complies with guidelines to reduce light pollution and minimize impact to wildlife and habitat areas.
- 2.8.3. Ensure emergency phones are located along the river trail [at frequent intervals.](#)
- 2.8.4. Utilize CPTED (Crime Prevention Through Environmental Design) principles in projects.
- 2.8.5. Encourage adjacent neighborhood watch groups to include the river in their area of influence.
- 2.8.6. Consider the use of video monitoring systems in isolated locations.
- 2.8.7. [Encourage safe passage programs across and along the LA River, in which community volunteers escort youth and other vulnerable populations along the river.](#)
- 2.8.8. [Encourage local police departments to employ community policing best practices along the river.](#)

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### 3. Goal: Support healthy, connected ecosystems.

The LA River watershed sits within one of the world's most diverse Mediterranean biodiversity hotspots, and along the Pacific Flyway. Due to urbanization, the region has the largest number of endangered and threatened species and species of special concern in the contiguous 48 states. The river ecosystem has been altered from its historic state, first through agriculture and irrigation and later through channelization. In community meetings and surveys, the issue most important to participants was protecting vulnerable plants and animals, identified as a priority by 52% of participants. Planning and development efforts along the river must create habitat areas large enough to support native ecosystems.

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#### 3.1. Increase habitat and ecosystem function along the river corridor.

Intact ecosystems perform multiple critical services beyond providing habitat for wildlife and adding to public enjoyment. They make air more breathable, water more drinkable, and climate more stable. They help mitigate the negative effects of urban development by filtering and absorbing stormwater, dampening noise pollution, and reducing greenhouse gases. Reports such as the Trust for Public Land's *Conservation: An Investment that Pays* (2009) have shown that all of these ecological services have economic value, which would be costly for LA County to replace.<sup>2</sup>

- 3.1.1. Prioritize projects that create and improve habitat and ecosystem function.
- 3.1.2. Collaborate with academic institutions and non-governmental organizations to collect data on ecosystem function within the LA River watershed and along the LA River corridor.
- 3.1.3. Collaborate with scientific research teams to increase the knowledge available about wildlife along and in the LA River and create species profiles for different sectional conditions along the river.
- 3.1.4. Continue to collaborate with the Regional Water Quality Control Board's environmental flows study to determine habitat opportunities.
- 3.1.5. Consider findings of the LA River Ecosystem Restoration Project in determining habitat opportunities.
- 3.1.6. Where natural soils are degraded, remediate soils to support healthy ecosystems and the development of soil systems that can improve soil moisture retention and plant health.

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<sup>2</sup> Erica Gies. *Conservation: An Investment that Pays*. The Trust for Public Land. 2009. p. 16. [http://cloud.tpl.org/pubs/benefits\\_econbenefits\\_rpt\\_7\\_2009.pdf](http://cloud.tpl.org/pubs/benefits_econbenefits_rpt_7_2009.pdf)

**3.2. Increase plant species biodiversity and focus on the use of local California native plants in and around the river corridor.**

Individual plants do not exist in isolation. They exist within the context of other plant species, microclimates, and wildlife, and each has a specific function within the larger ecosystem. The more diversity within an ecosystem, the more robust and resilient it is to changes that affect any individual species. Local native plants are best adapted to local climate and soil conditions, though these conditions may change over time. The Southern California Coastal Water Research Project estimates that up to 95% of Southern California's riparian ecosystems have been destroyed or degraded.

- 3.2.1. Develop reach specific plant species guidelines related to ecological zones along the river with keystone and indicator species to create native, resilient, and biodiverse ecosystems.
- 3.2.2. Consider long-term trends, such as population growth, climate change, future water regimes, resiliency, and sustainability, to create adaptive and dynamic biodiversity plans that are resilient to the urban context.
- 3.2.3. Incentivize the creation of nurseries along the river that can supply native plants for new, large river parks.
- 3.2.4. Use the LA River Design Guidelines' plant palettes to make the river a planned reserve for plant biodiversity as climate changes.
- 3.2.5. Actively manage and remove invasive species from the river corridor and adjacent areas utilizing best management practices.
- 3.2.6. Utilize locally sourced native seed on projects.

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**3.3. Create a connective network of habitat patches and corridors to facilitate the movement of wildlife and support a diverse ecological community.**

Habitat patches are discrete areas of habitat, whereas corridors are linear habitat linkages that ensure connectivity between patches. Enhancing and interconnecting urban habitat patches with the larger habitat areas beyond the LA River increases biodiversity and resilience to changing conditions. Connectivity of habitat systems allows for wildlife migration, which will be necessary due to climate change in the coming decades. It is likely that wildlife will need to migrate from the northern Mexican deserts to the California Floristic Province, and the LA River watershed is at the hinge point in this connection.

- 3.3.1. Utilize the river right-of-way to increase habitat areas.
- 3.3.2. Create habitat "stepping stone" patches in areas that are densely developed and do not have existing significant ecosystem functions.
- 3.3.3. Promote the creation of linkages between upland and riparian ecosystems and between the river and its tributaries.
- 3.3.4. Promote the creation of vegetated buffers at the edges of existing significant habitat areas as well as between habitat areas and vehicular areas.
- 3.3.5. Protect and enhance existing native, resilient, and biodiverse ecosystems (Plant communities are defined in the LA River Design Guidelines).
- 3.3.6. Support, in parallel with regional efforts, a reach specific regime for low flows in the river that contributes to ecological function.
- 3.3.7. Where possible, plant a continuous greenway of trees for increased cooling, forage, and roosting and nesting habitat.

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**3.4. Encourage cities along the river to adopt sustainability strategies.**

Adopting sustainability strategies that encourage the use of best practices in the construction, maintenance, and operation of public projects can decrease a city's environmental footprint, reduce long-term costs, and improve the relationships between buildings and their surrounding environments. In addition to realizing these benefits, sustainability certification (such as LEED or ENVISION) and even the pursuit of certification, can help to raise public awareness of environmental and sustainability issues.

- 3.4.1. Provide technical assistance to cities seeking to develop or improve sustainability or climate plans.
- 3.4.2. Encourage cities to require LEED certification, ENVISION, SITES, or comparable standards, for public projects.
- 3.4.3. Encourage cities to utilize nature-based approaches to projects.

3.4.4. Encourage cities to adopt stream protection ordinances that set guidelines and restrictions for development in the river 1% annual chance floodplain.

**3.5. Use environmentally responsible practices for operations and maintenance of the river channel and adjacent lands.**

Healthy, connected urban ecosystems rely not just on large physical investments but on more regular operations and maintenance practices. Environmentally friendly practices and products are widely available today. However, their application often differs from the use of their traditional counterparts, highlighting the need for additional training.

- 3.5.1. Train maintenance staff to work with native ecosystems and native plants.
- 3.5.2. Collaborate with local educational institutions to provide vocational training related to native ecosystem and native plant maintenance.
- 3.5.3. Ensure pest management and vector control is incorporated early during project development and coordinated with the Greater LA County Vector Control District.
- 3.5.4. Adopt Integrated Pest Management (IPM).
- 3.5.5. Limit pollution through the use of zero emission maintenance equipment.
- 3.5.6. Support water conservation strategies within the channel to balance water supply needs between municipalities, ecosystems, and recreation.
- 3.5.7. Eliminate the use of chemical herbicides in operations and maintenance.
- 3.5.8. Follow best management practices in sediment and vegetation management.

**3.6. Use the river corridor as a living laboratory where ongoing innovation is encouraged.**

Due to the broad range of conditions along the LA River, it is an ideal place to test varied ecosystem strategies. If proven successful, these strategies could be employed along the river, on other riparian corridors in LA County, or across the county.

- 3.6.1. Use pilot projects to promote innovation, such as methods for localized air pollution mitigation, renewable power generation, natural solutions to water quality and runoff attenuation, increasing plant biodiversity, monitoring native plants and wildlife, light pollution reduction, invasive species management, and the production of sustainable local resources.
- 3.6.2. Recognize exemplary projects along the LA River and watershed through the LA County Green Leadership Awards Program.

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#### **4. Enhance opportunities for equitable access to the river corridor.**

Today, ease and availability of access to trails along the LA River is highly variable. About 90 access points connect people to trails that serve 30 of the river's 51 miles. Yet, only one-third of these access points have signs and only 70% connect to sidewalks. Many access points are well served by bus, but only two Metro rail stops fall within a half mile of an access point to the river. It is therefore not surprising that not knowing where to go was among the top five reasons people who participated in community meetings and surveys cited for not visiting the LA River. The LA River is intended to be a resource for use by all of LA County, and to be a resource the river must be accessible and usable.

##### ***4.1. Create welcoming access points and gateways to the LA River and LA River Trail to optimize physical access along its length, on both sides.***

Along parts of the river that currently have trails, only about a third of access points have signs, less than two thirds appear to be ADA accessible, less than half connect to bridges that allow access to both sides of the river, and one in ten are just user-created holes in fences. Together, these conditions obscure, limit, and impede access to the LA River Trail. All access points should be welcoming so that potential users are drawn to and feel welcome to use the river.

- 4.1.1. [Make the river trail and gateways universally accessible and inclusive.](#)
- 4.1.2. [Prioritize access for areas with limited access or areas that need improvements to existing access points.](#)
- 4.1.3. [Prioritize access near major destinations, including schools, libraries, parks, transit stops, and job centers.](#)
- 4.1.4. [Encourage the development of safe routes to the river.](#)
- 4.1.5. [Purchase or establish easements adjacent to the river to create access.](#)

**4.2. Increase safe transportation routes to the river.**

Ensuring that there are clear, safe connections from neighborhoods to the LA River makes nearby neighbors more likely to use the river and, by extension, the broader LA County network of parks and trails that the river connects to. The ease and quality of these connections is important because impressions of traveling to and from the river can influence the entire river experience. Current research by scholars such as Dr. Richard Jackson of the University of California at Los Angeles and Dr. William Sullivan of the University of Illinois at Urbana-Champaign indicates a relationship between parks and health.<sup>3,4,5</sup> Increasing overall acres of park land and access to parks can positively benefit communities by reducing rates of preventable diseases such as diabetes and obesity.

- 4.2.1. Coordinate with LA County transportation plans, including Vision Zero, the Bicycle Master Plan, [Metro plans](#), [municipally adopted transportation plans](#), and the Step by Step Pedestrian Plan.
- 4.2.2. Provide pedestrian and bicycle connections across the river every half-mile.
- 4.2.3. Require all new pedestrian or road bridges over the river to provide pedestrian and bicycle access to the river trail.
- 4.2.4. Provide continuous pathways between the river and nearby recreation spaces.
- 4.2.5. Encourage cities to adopt complete streets policies to better connect neighborhoods to the river.
- 4.2.6. Increase the extent of multi-use trails that connect to the river with separate paths for active transport, pedestrians, and equestrians.
- 4.2.7. Coordinate with transportation [agencies to enhance public transit to and along the river.](#)
- 4.2.8. Coordinate with transportation planning to encourage transit lines that cross the river to have stops that provide access to the river trail.
- 4.2.9. Promote the use of public transportation to [get to and from the river trail.](#)
- 4.2.10. Develop informational materials and signage that highlight the river as an alternative to other modes of transportation to major job centers and destinations.

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<sup>3</sup> Rahman T, Cushing RA, Jackson RJ. Contributions of built environment to childhood obesity. The Mount Sinai journal of medicine, New York. 2011; 78(1): 49-57.

<sup>4</sup> Dannenberg AL, Jackson RJ, Frumkin H, Schieber RA, Pratt M, Kochtitzky C, Tilson HH. The Impact of Community Design and Land-Use Choices on Public Health: A Scientific Research Agenda. American Journal of Public Health. 2003; 93(9): 1500-8.

<sup>5</sup> Jiang, B., Zhang, T., & Sullivan, W.C. (2015). Healthy Cities; Mechanisms and research questions regarding the impacts of urban green landscapes on public health and well-being. Landscape Architecture Frontiers, 3 (1), p. 24-35. Published in Mandarin and English.

## 5. Goal: Embrace and enhance opportunities for arts and culture.

The LA River has long been at the cultural and historical heart of Los Angeles. From its first local tribes to the many neighborhoods it runs through today, the river has always been a valued community resource. LA County has the opportunity to advance culture, arts, and creativity throughout the county by recognizing, fostering, and preserving the rich tangible and lived cultural heritage along the LA River corridor. The river presents an opportunity to incubate new talent among the next generation of cultural practitioners, and to create new cultural opportunities, experiences, and spaces where the arts—including permanent, temporary, and socially based practices of art and design—can flourish and be shared. As a local cultural resource with global influence and stature, the LA River corridor can be a major destination that draws residents and tourists alike that promotes the equitable inclusion of LA County's diverse cultural sector, and that is responsive to the needs of the local communities through which it flows.

### 5.1. Develop a comprehensive 51-mile arts and culture corridor along the river that is place-based, community driven, and globally significant.

The LA River corridor offers a unique opportunity to create the longest continuous corridor of arts and culture in LA County. Not only does this 51-mile corridor provide a place to reflect each unique community along its banks through arts and culture, it provides a place to bring these diverse communities together and celebrate their similarities and differences. The corridor has potential to be a major cultural destination that is also locally rooted in equitable access to cultural infrastructure.

- 5.1.1. Site permanent civic art, temporary art installations, cultural amenities, cultural facilities, and cultural facilities along the river that are responsive to community strengths, needs, and identity.
- 5.1.2. Encourage incubation of diverse talent through commissions for local as well as regional and national artists and cultural organizations.
- 5.1.3. Identify reliable funding for civic art and cultural projects along the river, encourage coordination of municipal public art programs, and encourage percent for art programs where they are not in place.
- 5.1.4. Support operations and maintenance of existing cultural and arts assets along the LA River corridor to ensure optimal long-term viability of assets.
- 5.1.5. Provide workforce training to maintain culture- and arts-based projects.
- 5.1.6. Prioritize the use of local narratives of past and present in interpretive materials, including signage, environmental graphics, functional art, curricula, cultural markers, and educational displays.

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Deleted: While some historical structures remain, other histories have been lost and deserve to be recovered and retold. The river should also reflect the diversity of its neighboring cultures, communities and organizations, and include the provision of space for cultural uses along its course. As an iconic part of the Los Angeles County landscape, the LA River has long captured the imagination of photographers, painters, and other artists as well. Its banks have been used to host performances and collaborative art, as a projection screen, and as a canvas, with at least two dozen feature films having used the river as a backdrop.

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**5.2. Identify and activate cultural assets along the LA River corridor.**

A community's cultural assets contribute to its creativity, traditions, robustness, and vitality and can act as both resources and opportunities. Cultural assets can be material, ephemeral, and even spiritual. They include buildings, sites, and objects holding local and national cultural significance; people, places, events, and organizations recognized as cultural anchors within a specific community; and stories that are powerful enough to bind people together in a place over time. Making cultural assets visible and acknowledging them is a key element in sustaining livable communities.

- 5.2.1. Create a methodology for understanding existing cultural assets in collaboration with community members.
- 5.2.2. Work with community partners and creative strategists on cultural asset mapping activities in neighborhoods where there is limited existing data.
- 5.2.3. Continue asset mapping along the 51 miles of the LA River Corridor after pilot project completion.
- 5.2.4. Conduct community training in the tools and strategies for documenting cultural assets through methods including interviews, photography, mapping, and video.
- 5.2.5. Share ongoing asset mapping on the LA County Department of Arts and Culture website, and help reaffirm and build the LA River community as a vital and growing County resource.

**5.3. Integrate artists, cultural organizations, and community members in planning processes and project development along the river.**

The most effective way to integrate more local arts and culture into the LA River corridor is to have meaningful, ongoing engagement with those who are already deeply embedded in the arts and culture communities. Their voices help create and shape new opportunities along the river.

- 5.3.1. Engage artists at the beginning of planning processes, and allow for open-ended exploration to determine how design, arts, and culture can be fully integrated into projects.
- 5.3.2. Use both quantitative and qualitative data in planning arts and cultural activities along the river.
- 5.3.3. Incorporate artists and cultural practitioners in design processes, including signage, interpretive materials, and street furniture.
- 5.3.4. Incentivize projects that acknowledge, represent, and preserve cultural heritage and cultural assets and that include local craftspersons and artisans in riverside projects.
- 5.3.5. Prioritize cultural equity and inclusion in decision-making, investments, and strategies for implementation.

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<#>Share, monitor, and cultivate the asset mapping on the LA County Department of Arts and Culture website, and help reaffirm and build the LA River community as a vital and growing county resource.¶

**5.4. Galvanize and activate the LA River cultural identity through arts and culture.**

Raising awareness of existing and potential uses of the river for arts and culture will make the LA River a more vibrant part of LA County's cultural experiences. Providing a platform for arts and cultural activities will activate the civic space, provide opportunities for local communities and visitors to engage with the river, and support participation in cultural life, which is a hallmark of thriving communities.

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5.4.1. Activate the LA River by providing resources, grants, and other ongoing opportunities for cultural activities, gatherings, festivals, art, and performance along the river.

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5.4.2. Support community-based cultural and arts organizations along the river, and actively promote river spaces to local groups and communities as available for their use.

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5.4.3. Integrate civic art commissions and community engagement into the design criteria of the river corridor, including interpretive signage, cultural markers, interactive displays and other media, functional art, cultural amenities, and cultural facilities.

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**5.5. Streamline permitting processes for artwork and cultural activities along the river.**

Since the US Army Corps of Engineers and the LA County Flood Control District each have different permitting requirements, permit seekers today must be knowledgeable about the governance and regulations along the river to obtain a permit. Where one of these public entities holds an easement on otherwise publicly or privately-owned property in the corridor, the permit seeker must also seek permission from the property owner. A streamlined permitting process will encourage more widespread use of the river as a location for artwork and cultural activities.

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5.5.1. Simplify permitting for permanent art along the river.

5.5.2. Simplify permitting for holding events and performances along the river.

5.5.3. Encourage the creation of an affordable permitting pathway, which allows for community-based participants to more easily access the river.

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**6. Goal: Address potential adverse impacts to housing affordability and people experiencing homelessness.**

Since 2000, LA County residents have been paying more for housing. The median owner-occupied home value has gone up by over 50%, from \$298,800 to \$465,900 between 2000 and 2016 (in 2016 dollars). Among renters, the percentage of household income spent on housing went up from 28 to 35% in the same time period. About a third (32%) of renters in the county are severely rent burdened, meaning they spend more than half of their income on rent. As the affordable housing shortfall has risen, so has the number of people experiencing homelessness, which now exceeds 50,000 people across LA County. Approximately 7,000 persons experiencing homelessness are living in neighborhoods adjacent to the river. As the LA River moves toward the vision of becoming 51 miles of connected open space, it is critical to consider how this vision will impact housing and homelessness. With the goal of increasing parks and open space, there is potential to negatively impact housing affordability. It is therefore important to proactively implement a meaningful strategy for preventing displacement and ensuring continuing affordability of housing in river adjacent communities. It is possible to improve neighborhoods without causing negative effects of gentrification.

**6.1. Create an ongoing forum for the coordination of housing and community stabilization strategies along the river.**

Ensuring that river improvements strengthen communities without contributing to already intense housing affordability challenges requires a complex balancing act and the best strategies are likely to change. LA County needs ongoing input from impacted communities in order to help guide the evolution of this strategy over time.

- 6.1.1. Establish an LA River Housing Affordability Task Force that includes representatives from the County and river adjacent cities, as well as key community stakeholders, including affordable housing advocates and representatives of communities directly experiencing displacement. Provide funding for staffing or consultants to support the Task Force.

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**6.2. Require a housing impact assessment be completed as part of the planning for all sizable river improvement projects.**

A housing impact assessment is a tool for quantifying how a project might affect nearby housing prices or rents. By conducting such an assessment during the planning phase of a project, proactive steps can be taken in proportion to the projected impact to mitigate adverse effects on housing affordability and the risk of displacement.

- 6.2.1. Develop an assessment tool to evaluate whether projects are likely to significantly impact housing affordability.
- 6.2.2. Prior to committing County resources to river projects or approving permits that impact the river right-of-way, require completion of a concise assessment of affordable housing needs and opportunities. The extent of analysis required should vary depending on the scale of the river project, but each assessment should include:
  - an analysis of the potential impact of the proposed project on housing affordability and displacement.
  - a summary of existing affordable housing programs and projects serving the community including any existing affordable housing developments with affordability restrictions scheduled to expire.
  - a 'community roadblock analysis' which identifies local barriers to approval of supportive housing in the surrounding community.
  - an analysis of the existing stock of currently unsubsidized but affordable market rate rental housing in the area surrounding the project.
  - a list of specific sites which could be appropriate for development of supportive housing for persons experiencing homelessness.
  - an affordable and supportive housing strategy outline tailored to the local needs and opportunities.

**6.3. Increase units of affordable housing within one mile of the river.**

The most effective way to mitigate adverse effects on housing affordability is to increase the supply of affordable housing or preserve existing affordable housing. By investing in more housing units with restricted rents near the river we can help ensure that river adjacent communities remain income diverse even as the river improves.

- 6.3.1. Encourage a mix of supportive housing, affordable rental, and affordable homeownership units in both new construction and preservation buildings.
- 6.3.2. Expand the LA County Community Development Commission's Home Ownership Program (HOP) to provide additional affordable homeownership opportunities in river adjacent communities.
- 6.3.3. Designate river adjacent communities at risk of increased displacement as priority areas for County affordable housing investment.
- 6.3.4. Publicly report on the progress toward this goal annually through the LA River Housing Affordability Task Force.

**6.4. Develop an affordable housing land bank authority, land acquisition loan fund, or similar organization to strategically purchase land in proximity to the river and hold it for future development as affordable housing or permanent supportive housing.**

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The primary obstacle to building new affordable housing and permanent supportive housing is the lack of available land on which to build it. LA County is largely built out, with few vacant properties and relatively high property values. A land bank authority or similar organization that is specifically tasked with assembling development parcels could lower the barrier to creating new affordable housing.

- 6.4.1. Commission a study to identify all public agency owned land within one mile of the LA River and identify surplus or underutilized sites appropriate for development of affordable or supportive housing, including sites where housing could be collocated with other uses.
- 6.4.2. Designate and fund a single land bank or similar entity within county government or an outside partner to:
  - coordinate site acquisition and financing river-wide.
  - Initially target land acquisition efforts largely (but not exclusively) in areas identified as facing the greatest risk of displacement.
  - Partner with local agencies and community-based organizations to manage community planning processes to identify local priorities for development in each area.
  - Manage RFPs or other public process for selecting housing developers for disposition or joint development projects.
  - Transfer ownership of land to local nonprofit housing providers, or other long-term owners when sufficient local capacity exists.
  - Recapture land purchase funds for reuse in future sites to the extent possible.

**6.5. Secure funding for affordable housing in parallel with funding for river projects.**

With the understanding that housing affordability is a priority concern throughout LA County, it is imperative that, in conjunction with the results of housing impact assessment, any projected adverse effects on housing affordability caused by a planned river project be mitigated in lock step with the project's progression. This requires that funding for housing be available up front, while steps can still be taken to preserve affordability. Waiting until a project is in progress or complete to address housing affordability would mean confronting an exacerbated problem, which is likely to be even more costly in the long term.

- 6.5.1. As new financing tools are created to fund river improvements, set aside a portion of funding to support land acquisition and affordable housing whenever possible. While many infrastructure financing sources will not allow use for affordable housing, using a portion of river specific funding for housing, when possible, can leverage additional affordable housing financing and expand the amount of affordable housing built adjacent to the river.
- 6.5.2. Commission a study of the potential for an affordable housing specific tax increment financing tool as a means of significantly expanding funding for affordable housing along the river by capturing a small share of future growth in property tax revenue exclusively for affordable housing.
- 6.5.3. Leverage existing housing subsidies to finance permanent supportive housing for people formerly experiencing homelessness on key sites adjacent to the river.
- 6.5.4. Require all residential projects with a commitment of County resources, such as funding or land, to set aside at least 25% of the units to be affordable to extremely low, very low, and low-income households.

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**6.6. Incentivize stronger tenant protection policies along the river.**

While many river adjacent communities operate affordable housing programs, few communities have strong tenant protections. Such policies seek to prevent tenants from being evicted outright or through unaffordable rent increases. When low-income families are evicted, they often have no other options and it is common for people to experience homelessness.

- 6.6.1. Develop resources to expand tenant education and counseling, and inform tenants living adjacent to river improvement projects about the availability of counseling services, including those available through LA County Department of Consumer and Business Affairs.
- 6.6.2. Develop resources and provide technical assistance to encourage cities to adopt stronger tenant protection policies, including rent stabilization and just cause for evictions.
- 6.6.3. Fund a grant program to provide staffing support to community-based organizations in high-risk communities to conduct direct outreach and counseling to tenants at risk of displacement.
- 6.6.4. Expand County funding for eviction legal defense services for tenants, and target this resource to areas of the county (including many river adjacent communities) likely to experience concentrated displacement.
- 6.6.5. Prioritize river investment programs in communities that have established tenant protections.

**6.7. Support persons experiencing homelessness along the river by coordinating outreach and by building new permanent supportive housing.**

Permanent supportive housing is housing coupled with a range of supportive services, with no time limit as long as tenants meet certain basic obligations, such as paying rent. LA County has a coordinated entry system that serves as a single point of entry to connect people with housing needs to a variety of housing providers. Continued coordination among the web of organizations that perform outreach or provide permanent supportive housing is paramount.

- 6.7.1. Identify sites for permanent supportive housing within 1 mile of the river.
- 6.7.2. Coordinate and support existing efforts to provide temporary and interim supportive housing until the implementation of permanent solutions.
- 6.7.3. Coordinate and support existing efforts of the County's coordinated homeless outreach system and their work along the LA River.
- 6.7.4. Connect persons living in or near the river to the coordinated entry system for access to housing opportunities for which they are eligible.
- 6.7.5. Build on the platform provided through Measure H to support more local cities in developing proactive homeless support programs and policies.

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**6.8. Integrate best practices for working with persons experiencing homelessness utilizing the river corridor.**

Many unsheltered residents live in homeless encampments alongside the LA River. Encampments can impede operations and maintenance efforts and often pose challenges to both environmental and public health, particularly water quality. The provision of permanent sanitation and hygiene facilities, coupled with a centralized set of guidelines for the management and clearing of encampments based on compassionate practices, when necessary, will ensure that the river corridor is a space where all people feel safe, have access to basic needs such as restrooms, and are treated with dignity.

- 6.8.1. Review and update guidelines for clearing of encampments along the river to increase notification timelines and coordination with outreach teams.
- 6.8.2. Continue and improve the LA County Public Works temporary sanitation stations program while developing more robust sanitation facilities.
- 6.8.3. Provide, at a regular cadence of approximately every mile, permanent facilities for sanitation that are regularly maintained, staffed, and coordinated with river amenities.
- 6.8.4. Coordinate with the River Rangers program to train rangers to interact with persons experiencing homelessness.

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**7. Goal: Foster opportunities for continued community engagement, development, and education.**

Among the hundreds of community groups that are present along the river, there are over three dozen organizations and initiatives that focus on the river itself, some of which have been active for over three decades. Healthier, more socially connected communities were the third most important river-related issue for community members. The LA River's connection to the region's history, ecology, and culture makes it a prime venue and tool for both community engagement and education. Community members felt it was most important for people to learn how the river benefits and supports the environment (38%); ecology, habitat, and vegetation (33%); and current hydrology and uses of the river (21%). Though some adjacent communities currently take advantage of the river, a reimagined river with increased activity could serve as a platform and front door for all surrounding communities.

**7.1. Provide spaces for people of all ages and abilities to learn about the ecology, hydrology, engineering, and cultural and natural history of the river and its watershed.**

The LA River and its watershed have been in a constant state of change throughout human history—from the way the river used to naturally change course to its channelization, from native plant and animal communities to dense urbanization, from native peoples' use of the river as a water source to its current use as flood risk reduction infrastructure. Some artifacts of this evolution of the river are still visible today, but much of this history is not readily apparent. Providing spaces for learning can allow people to connect with this history in a tangible way that can only happen in person along the river.

- 7.1.1. Install interpretive signage, cultural markers, interactive displays, or other media that reflect community input and local culture.
- 7.1.2. Create outdoor classroom spaces that can be used by schools, [and encourage river adjacent schools to plan field trips to the LA River.](#)
- 7.1.3. Prioritize connectivity to the river from schools, cultural centers, and other education facilities.
- 7.1.4. [Collaborate with arts and culture organizations and academic institutions to understand cultural heritage and historical markers along the LA River and include them in asset mapping.](#)
- 7.1.5. [Create informal and formal spaces for educating in cultural traditions and the arts, such as culinary arts, design, media, architecture, and other genres of artistic production.](#)

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**7.2. Develop educational materials for people of all ages to learn more about the past, present, and future of the river corridor; natural resource protection; and the wildlife and water of the LA River.**

People learn in different ways. Some are more visual or aural learners, while others are more physical or verbal learners. Some learn through individual explorations, others through directed group experiences. To ensure people of all ages can fully embrace the deep history and vibrant present of the LA River will require acknowledging and addressing various learning styles, paces, and forums.

- 7.2.1. Work with educational institutions to develop sample curricula for teachers of students of different ages to use when bringing their classes to the river [or to learn about the LA River in their classrooms.](#)
- 7.2.2. [Develop self-guided educational tours that engage and educate in cultural heritage, the arts, architecture, and the history of the built and natural environment.](#)
- 7.2.3. [Increase public understanding of ecosystem function and awareness of habitat and ecosystem health along the LA River.](#)
- 7.2.4. [Develop and implement an educational program on river water quality.](#)
- 7.2.5. Coordinate with the River Rangers program to provide educational tours that feature Traditional Ecological Knowledge.
- 7.2.6. Work with Native American communities to develop a curriculum telling the history of indigenous peoples whose lives and traditions depend on the LA River.
- 7.2.7. [Collaborate with local artists and cultural historians on the development of education materials and initiatives.](#)
- 7.2.8. [Coordinate with public information and participation program managers to provide educational materials on stormwater, water quality, multi-use projects, and other topics.](#)

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**7.3. Engage the native peoples of the region to document and celebrate the importance of the indigenous cultures of the LA River, past and present.**

Nations of native peoples have lived in the LA River region for millennia, making their history, traditions, and practices critical to painting a full picture of the river. There is still much to learn about and document from present-day native communities, including historical interactions and future visions regarding the importance of physical access to the river, choice of language in narratives surrounding the river, and traditional approaches to managing and adapting to flooding. At the same time, there must be acknowledgment of the legacy of colonization of the LA River, which resulted in the erasure of native cultures and removal of native peoples from their lands, and continues to shape the LA River and its communities to this day. Through dialogue, there is hope of achieving historical and present-day reconciliation and harmony with native communities.

- 7.3.1. Foster an ongoing conversation and collaboration with Native American communities about the LA River.
- 7.3.2. Streamline the permitting process for access to traditional religious, cultural, and ceremonial spaces along the LA River corridor.
- [7.3.3. Create informal spaces for the practice of lived cultural traditions in consultation with Native American organizations.](#)
- 7.3.4. Utilize place names from Native American languages in signage along the LA River.
- [7.3.5. Integrate Native American knowledge of native plants and wildlife.](#)

**7.4. Promote the river and natural ecosystem as an economic asset to surrounding communities.**

The LA River provides economic value, not just for its irreplaceable utility functions but for its ecosystem and community services too. Transforming the river as it is today into the river it is envisioned to be will increase its value as a recreation amenity, as a living laboratory, as an active transportation corridor, as a place to display and celebrate art and culture. To advocate for, build, and maintain the reimagined river will require the coordinated work of designers, engineers, artists, skilled tradespeople, and others. This presents an opportunity to train and hire a cadre of river-related workers, create local jobs programs, and encourage youth internships.

- 7.4.1. Utilize local resources and workforce to design, build, operate, and maintain projects, art, and amenities along the river, where possible.
- 7.4.2. Work with homeless service providers to identify opportunities to train and match individuals experiencing homelessness with jobs or other vocation training.
- 7.4.3. Encourage local businesses and river-related groups to engage youth, [individuals under community supervision \(probation and parole\), and reentering populations](#) in internships related to the river.
- 7.4.4. Promote recreation as an economic resource.
- 7.4.5. Provide workforce training to maintain nature-based projects.
- [7.4.6. Encourage fair-chance policies in hiring for river-related jobs.](#)
- [7.4.7. Encourage local businesses and river-related groups to engage aging adults in employment and volunteer opportunities related to the river.](#)
- [7.4.8. Work with veterans affairs to identify opportunities to train and match veterans with jobs or other vocation training related to the river.](#)
- [7.4.9. Promote river-related job programs for persons with physical, cognitive, psychiatric, communicative, and developmental disabilities.](#)

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**7.5. Improve the interface between the river corridor and adjacent communities.**

A 51-mile corridor of connected public open space, arts, and culture along the LA River can only be an asset if it has strong personal and physical connections with adjacent communities. Both personal and physical connections with the river provide mutual benefits—for example in the form of community voices shaping the river experience and becoming a greater community asset, or in the form of increased patronage of the river and compatible adjacent land uses.

- 7.5.1. Visually enhance river right-of-way boundaries, including with fencing and vegetation.
- 7.5.2. Encourage existing river-adjacent development to orient its “front door” toward the river and public transportation.
- 7.5.3. Integrate cultural markers into signage and environmental graphics.
- 7.5.4. Continue to solicit input from communities along the river throughout implementation of this plan and hold community meetings to update residents on the progress of plan implementation.
- 7.5.5. Require that County funded infrastructure and open space projects engage local residents and community stakeholders in planning.
- 7.5.6. Reflect the physical and social character of each neighboring community in the physical design of river improvements.
- 7.5.7. Identify community vulnerabilities, such as displacement risk, flood risk, or climate vulnerability, and investigate potential impacts associated with river improvement projects.
- 7.5.8. Develop a strategy to address identified threats by projects to community and resident stability, particularly forces of economic displacement, flood risk, and climate risk.
- 7.5.9. Encourage cultural organizations, small businesses, and artisans working or based along the LA River corridor to engage youth in internships offering arts training.

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## 8. Improve local water supply reliability.

More than 50% of the region's water supply is imported from the Colorado River, the Sacramento-San Joaquin River Delta, and the Eastern Sierras. In the Los Angeles Basin, 57% of water is imported, 34% comes from groundwater, and 9% is sourced from recycled water, water conservation measures, and local surface water diversions. In community meetings and surveys, supplementing water supply was the second most important issue related to the LA River for participants, identified by 48% of participants. Increasing population, regulatory requirements, natural disasters, and demands on the water system accentuate decreasing reliability in the sources of imported water supplies that is caused by cyclical droughts and climate change. Dry weather and wet weather flows in the LA River present opportunities to develop and diversify local water resources to reduce dependence on imported water and increase the reliability and resiliency of the region's water supply.

### 8.1. Capture and treat stormwater and dry weather flows before they reach the river channel for groundwater recharge, direct use, water recycling, or release for downstream beneficial uses.

The primary sources of water flowing into the LA River are wet weather (stormwater) runoff originating from precipitation on the watershed and dry weather inputs from the watershed, including incidental urban runoff and groundwater upwelling. The dominant source of dry-weather flow is recycled water discharge from the Donald C. Tillman Water Reclamation Plant (DCTWRP), the Los Angeles Glendale Water Reclamation Plant (LAGWRP), and the Burbank Water Reclamation Plant (BWRP). Much of this flow originates from waters imported from outside the LA River watershed. Projects that strategically capture and treat these flows before they reach the river would expand water supply opportunities [in the watershed and](#) along the river corridor.

- 8.1.1. Encourage and incentivize water capture and direct use on public and private properties.
- 8.1.2. Provide incentives for private property owners to capture and treat stormwater on site.
- 8.1.3. Coordinate dry-weather flow [management, such as stormwater and dry-weather flow capture, groundwater management, and water recycling](#), among jurisdictions and along the tributaries and other sub-watersheds.
- 8.1.4. Implement stormwater [and dry-weather runoff](#) capture projects within the watersheds and along the tributaries of the LA River.

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### 8.2. Divert and treat stormwater and dry weather flows within the river channel for groundwater recharge, direct use as recycled water, and to supply water for parks and ecological areas.

Water diverted from the LA River could become another source in a portfolio of regional water sources. Diverted water could be used to enhance habitat, support recreation, or supply water for municipal and industrial uses. Storing diverted water in basins through groundwater recharge is particularly attractive because the water does not have to be used immediately. It can be stored until a later time when it is most needed.

- 8.2.1. Implement direct diversion and treatment projects for recharge in the Central Basin.
- 8.2.2. Implement direct diversion and treatment projects for use as recycled water.
- 8.2.3. Consider direct diversions from the channel for use in river adjacent parks and ecological areas.

**8.3. Employ and encourage efficient water use.**

Water conservation and efficient water use can offset demand for imported water and increase local water supply reliability.

- 8.3.1. Conduct an inter-institutional study on climate change impacts to water supply planning in the LA Basin.
- 8.3.2. Apply the latest accepted climate change prediction models to water supply planning.
- 8.3.3. Encourage and incentivize households and neighborhoods to adopt best practices in water management.
- 8.3.4. Provide incentives for new projects to utilize Waterwise methods.
- 8.3.5. Encourage water conservation, water use efficiency measures, and the use of recycled or on-site collected water for irrigation in new developments, retrofit projects, parks, and ecological areas.

**8.4. Improve water supply and recycling facility operations and maintenance.**

Water supply projects, like all other infrastructure, require proper operations and maintenance to help maximize long-term viability of the projects. Insufficient funding and maintenance procedures can decrease the effectiveness in delivering proper water supply benefits, as well as shorten the lifespan of the infrastructure.

- 8.4.1. Expand coordination between responsible water management agencies to streamline operations and maintenance, facility management, funding, and permitting.
- 8.4.2. Review and update water supply and water recycling operations and maintenance protocols and best practices as they pertain to the river.
- 8.4.3. Implement new technologies such as real-time monitoring, reporting, and controls.

**8.5. Continue measures to clean up the regional groundwater aquifers.**

If water is diverted from the LA River to recharge groundwater it could be used by municipal water suppliers during periods of greatest need. Identifying and cleaning contaminated groundwater aquifers is therefore crucial for augmenting local water supply.

- 8.5.1. Explore state legislation to empower local agencies, and provide technical and financial support for improvement of water quality and reduce regional groundwater threats.
- 8.5.2. Coordinate with the Upper Los Angeles River Area (ULARA) Watermaster, the water purveyors, and the responsible parties to advance groundwater remediation and improve the management and use of the San Fernando Groundwater Basins.
- 8.5.3. Coordinate with the Water Replenishment District, the water purveyors, and the responsible parties to advance groundwater remediation and improve the management and use of the Central and West Coast Groundwater Basins.

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## 9. Goal: Promote healthy, safe, clean water.

The LA River is a water body with multiple beneficial uses, impairments, and regulated pollutants. While over 800 water quality improvement projects are planned or have been completed within the river's watershed, additional efforts are needed to meet established water quality targets. In many locations there are projects proposed or constructed to meet the river's water quality requirements. However, there is much uncertainty in the funding and implementation of the proposed projects to keep pace with approved regulatory milestones.

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### 9.1. Improve water quality and contribute to the attainment of water quality requirements to protect public and environmental health.

In addition to protecting public and environmental health, improved water quality in the LA River is important for the implementation of projects along the LA River corridor that seek to use water from within the channel.

- 9.1.1. Develop corridor-based water quality projects and programs, leading to implementation and operations and maintenance.
- 9.1.2. Support, encourage, and incentivize watershed water quality projects and program development, implementation, operations and maintenance, adaptive management, and planning refinements of the WMPs and EWMPs.

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### 9.2. Coordinate water quality improvements with Measure W.

Starting in 2020, Measure W will provide \$300 million annually for a broad range of water quality projects in LA County.

- 9.2.1. Support the establishment of an oversight committee to direct efforts following any new or existing regional funding initiatives.
- 9.2.2. Follow prescriptive watershed planning along with adaptive management practices as detailed in the regional Watershed Management Programs/Enhanced Watershed Management Programs (WMPs/EWMPs).
- 9.2.3. Assist with establishing procedures for a credit program to assist property owners as identified in Measure W.
- 9.2.4. Provide technical and/or financial support for: feasibility studies; water quality planning; resilience planning; real property acquisition for project development; pilot projects to test new technologies and/or methodologies focused on water quality, local water supply, and community investments; and retrofit programs.

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**9.3. Coordinate with the Watershed Management Program/Enhanced Watershed Management Program (WMP and EWMP) Groups.**

There are ~~four~~ WMP or EWMP groups along the LA River that have adopted programs through which participating cities and agencies meet their water quality requirements. LA County will continue to coordinate with these groups to implement projects from these programs and to develop additional water quality projects within their respective areas.

- 9.3.1. Ensure development within the watershed incorporates low impact development techniques to increase infiltration and capture throughout the built watershed.
- 9.3.2. Expand stormwater capture for groundwater recharge, increase distributed stormwater capture, and reduce effective imperviousness in the watershed, prioritizing nature-based solutions where possible.
- 9.3.3. Actively coordinate with the Upper Los Angeles River, Los Angeles River Upper Reach 2, Rio Hondo, and Lower Los Angeles River watershed management groups to develop regional and distributed projects and programs that contribute to meeting goals for regional water quality improvement.
- 9.3.4. Prioritize the removal of pollutants of concern according to timelines contained within the implementation plans and the Clean Water Act.
- 9.3.5. Prioritize catchments where needs are greater than can be met with planned or developed projects.
- 9.3.6. Continue to implement and enforce regional policies for green streets, low impact development, and other watershed improvement initiatives.
- 9.3.7. Prioritize nature-based solutions to improve water quality.
- 9.3.8. Publicize water quality metrics and monitoring results.

**9.4. Increase public awareness of river water quality and watershed health.**

There is a common misperception that the water in the LA River is unclean. While all rivers are subject to sporadic events where water quality dips below normal, the majority of water in the river during dry weather comes from the three water reclamation plants that treat it to a very high standard of quality. This water is clean enough for people to kayak in the soft-bottom parts of the river. In areas where polluted runoff discharges into the LA River, water in these areas can become polluted. Education can help improve public awareness of safe and unsafe conditions and teach communities how to improve the quality of their runoff.

- 9.4.1. Develop a website to coordinate information, provide consistency in water quality reporting, and assist in educating other agencies, cities, and the general public on river issues such as water quality.
- 9.4.2. Post consistent and inclusive signage and communication about water quality on bridges, access points, and along the river.

**9.5. Improve water quality facility operations and maintenance.**

Water quality projects, like all other infrastructure, require proper operations and maintenance to help maximize long-term viability of the projects. Insufficient funding and maintenance procedures can decrease the effectiveness in delivering proper water quality benefits, as well as shorten the lifespan of the infrastructure.

- 9.5.1. Expand coordination between responsible water quality agencies to streamline O&M, facility management, funding, and permitting.
- 9.5.2. Review and update operations and maintenance protocols and best practices.
- 9.5.3. Implement new technologies such as real-time monitoring, reporting, and controls.

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