

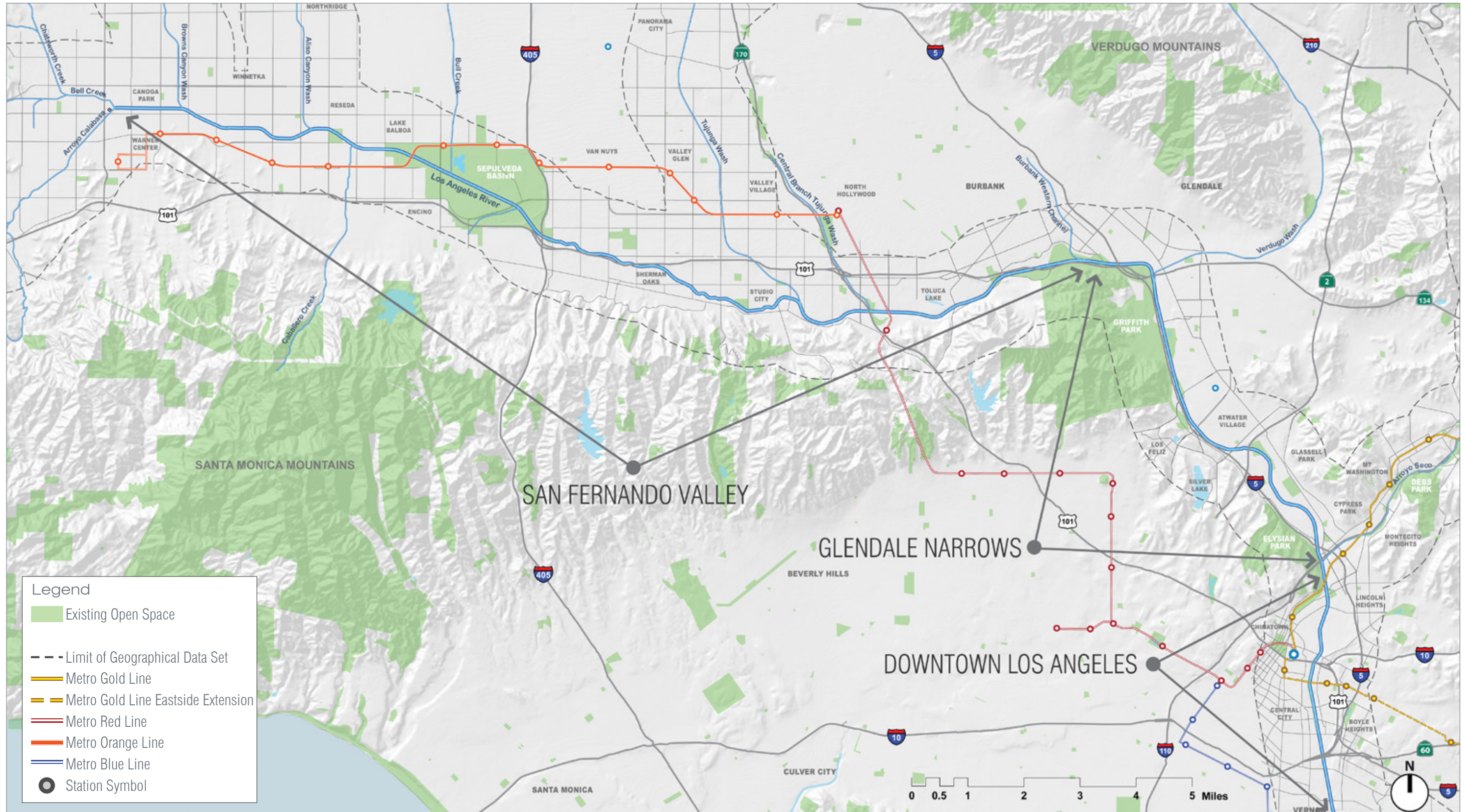


April 2007



# LOS ANGELES RIVER REVITALIZATION MASTER PLAN

*"The way we treat rivers reflects the way we treat each other"* Aldo Leopold (1887-1948)





ANTONIO R. VILLARAIGOSA  
MAYOR

Dear Fellow Angelenos:

The Los Angeles River traverses our diverse City, touching neighborhoods from its headwaters in Canoga Park through Downtown. Today, most of the River's 51 miles - 32 of which are in the City of Los Angeles - flow within a concrete channel, serving a vital function as a flood control measure for the City and County of Los Angeles. This important but singular function has limited the vast potential of the River as a focal point for economic growth and community revitalization, environmental stewardship, and recreational opportunities. After nearly two years of research and dialogue, the long awaited Los Angeles River Revitalization Master Plan provides the first comprehensive proposal for river restoration.

The Plan provides a 25- to 50-year blueprint for transforming the City's 32-mile stretch of the river into an "emerald necklace" of parks, walkways, and bike paths, as well as providing better connections to the neighboring communities, protecting wildlife, promoting the health of the river, and leveraging economic reinvestment.

In order to give the Plan continued life, it proposes the establishment of an innovative, three-tiered River management structure—linking together governance, entrepreneurship, and philanthropy. In fact, the City has already laid the groundwork for ongoing cooperation with other public agencies such as the County of Los Angeles, the Santa Monica Mountains Conservancy, and the Army Corps of Engineers, to facilitate River Corridor improvements as soon as possible.

The Plan has been a collaboration of elected officials, multiple city departments and bureaus, a network of experts and consultants, concerned citizens, and environmental and recreational groups. A critical element of the Plan will be to provide ongoing opportunities for public involvement as specific projects move forward.

The adoption of this Plan marks an auspicious moment in our collective effort to revitalize the Los Angeles River. Whether you live in a neighborhood adjacent to the River or in a community 20 miles away, I hope that you will celebrate with us.

Very truly yours,

ANTONIO R. VILLARAIGOSA  
Mayor

ARV:kjk



CITY HALL  
LOS ANGELES, CALIFORNIA 90012

Dear Friends:

The development of the **Los Angeles River Revitalization Master Plan** can be traced to a bold neighborhood vision in the early 1990s to convert an old rail yard, known as Taylor Yard, to benefit the community. In this neglected riverfront, just north of downtown, residents saw more than just a 200+ acre industrial lot. They saw parks. They saw natural habitat. They saw neighborhood revitalization.

The result: Today the City and California State Parks are transforming Taylor Yard into a 40-acre state park, a key link in the River revitalization. Parks cleanse the air, create a sense of community and provide a source of relief in some of the City's most densely populated neighborhoods.

But just as important, the intensive community process, which allowed residents to create a vision for Taylor Yard in the early 1990s, became the template used a decade later to renew more than 32 miles of the Los Angeles River.

With this in mind, in June 2002, the Los Angeles City Council established the Ad Hoc Committee on the Los Angeles River to work with stakeholders on major revitalization efforts such as recreation, neighborhood identity, wildlife habitat, water replenishment, jobs, tourism and civic pride.

In October 2005, we launched a series of public workshops that have drawn thousands of people - from Canoga Park to Boyle Heights - of diverse ages, ethnicities and economic backgrounds, to weigh in on the River renewal. Their vision is captured in this master plan, one of the greatest opportunities to change the face of L.A. Even beyond City boundaries, it is a 25-year blueprint that weaves in environmental enhancement, green space and economic development that impacts the region.

The master plan is the result of tireless efforts by residents, community leaders, environmentalists and others who never stopped believing that the River, a trench entombed in cement, could be renewed, brought back to life.

Our communities want parks. They want wildlife habitat. They want neighborhood revitalization for our families and children. No one deserves it more than them.

After all, it is their vision.

Sincerely,

**ED P. REYES**  
Chair, Ad Hoc Committee on the Los Angeles River



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The Plan includes ten chapters.

- Chapter One describes the River’s transformation from a functioning natural system to a channelized flood control structure, and summarizes the inspiration for this Master Plan.
- Chapter Two presents the overarching vision for River revitalization, including images of proposed improvements, short- and long-term projects, and the expected benefits, including social impacts.
- Chapter Three describes hydraulic, ecological and public access considerations that have motivated the Plan, and sets the Plan within a watershed and policy context.
- Chapter Four summarizes recommendations for revitalizing the River within and adjacent to its existing right-of-way, including recommendations for flood mitigation, water quality, public access and ecosystem restoration.

A project managed by the

City of Los Angeles  
 Department of Public Works  
 Bureau of Engineering  
 Gary Lee Moore, PE.  
 City Engineer

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[www.lariver.org](http://www.lariver.org)



The point of origin of the Los Angeles River at the confluence of Bell Creek and the Arroyo Calabasas in Canoga Park. (2006)

- Chapter Five summarizes recommendations for “greening neighborhoods” and reconnecting them to the River. A continuous River Greenway becomes the spine of the City, connected to adjacent neighborhoods by pedestrian-friendly Green Streets.
- Chapter Six provides a framework for capturing community opportunities through a renewed orientation and focus on the River.
- Chapter Seven describes the economic value and potential quality of life benefits that might accrue through this renewed orientation.
- Chapters Eight through Ten discuss policy and economic development possibilities for implementation.
- Chapter Ten includes a detailed list and maps outlining specific proposed projects along the River Corridor.

## EXECUTIVE SUMMARY

### GEOGRAPHIC CONTEXT OF THE LOS ANGELES RIVER

The Los Angeles River flows approximately 51 miles from its origin in the San Fernando Valley region of the City of Los Angeles, to Long Beach Harbor and the Pacific Ocean.

The River runs east/southeastward through Los Angeles and along the cities of Burbank and Glendale in its northern reaches, and then heads southward, flowing through the cities of Vernon, Commerce, Maywood, Bell, Bell Gardens, South Gate, Lynwood, Compton, Paramount, Carson, and Long Beach, respectively. The first 32 miles of the River flows through the City of Los Angeles, intersecting 10 Council Districts (Districts 3, 12, 6, 2, 5, 4, 13, 1, 9, and 14, respectively), 20 Neighborhood Councils and 10 community planning areas as follows (in geographic order from north/northwest to south/southeast): Canoga Park-Winnetka-Woodland Hills-West Hills; Reseda-West Van Nuys; Encino-Tarzana; Van Nuys-North Sherman Oaks; Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass; Hollywood; Northeast Los Angeles; Silver Lake-Echo Park; Central City North; and Boyle Heights.

The River begins in the Canoga Park community at the confluence of Bell Creek and the Arroyo Calabasas—approximately two miles north of the northern foothills of the Santa Monica Mountains. The River extends east/southeastward through the communities of Reseda-West Van Nuys, and Encino-Tarzana toward the Sepulveda Dam Recreational Area and Flood Control Basin. From the Sepulveda Basin, the River continues eastward through the communities of Van Nuys, Sherman Oaks, and Studio City. The Central Branch of the Tujunga Wash joins the River from the north in Studio City. From this point, the River continues approximately 6 miles eastward along the southern border of the City of Burbank and the northern border of Griffith Park. At this point, the Verdugo Wash joins the River from the northeast. Here, the River is approximately 1.5 miles south of the southern foothills of the Verdugo Mountains and bends sharply southward, roughly paralleling the Golden State (5) Freeway. The River continues southward between Griffith Park to the west and the Atwater community to the east, through Elysian Valley, Lincoln Heights, Boyle Heights, and Downtown before flowing out of the City of Los Angeles, into the City of Vernon.



The extent of the Los Angeles River (U.S. Army Corps of Engineers, 1991)

### THE RIVER'S PAST

The Los Angeles River is the original source of life for the City of Los Angeles. It is where first the Native Americans and later the Spanish built the City's earliest settlements. In the 19th and 20th centuries, the River powered the City's industry and served as an important transportation corridor, creating economic value and growth. With extensive building in the growing City came the encroachment into the River's floodplain and the inevitable damage from floods. Homes and businesses were flooded on numerous occasions in the first half of the 20th Century; in 1914, 1934, and 1938, devastating floods prompted the U.S. Army Corps of Engineers and the Los Angeles County Flood Control District to construct the concrete-lined channel that now conveys the River for most of its 51-mile length.

Over time, with the rail yards, warehouses, and other industrial uses that line the River's edge, the River has become both literally and figuratively isolated from most people and communities. Most residents cannot see the River, let alone enjoy it as a valuable public resource. For the six decades since the River was paved, it has been treated as an unwelcome guest in many neighborhoods.

The 32 miles of the River that flow within the City of Los Angeles represent more than 750 contiguous acres of real estate, in the very heart of the City. Transforming even a small portion of that land for new, multiple-benefit uses, including natural system restoration, treatment of storm water runoff, establishment of a continuous River greenway, and an interconnected network of parks and trails, could indeed revive the River. These changes would go a long way in not only restoring the ecological function of the River, but also in restoring the River's identity to one that celebrates the past and the future of Los Angeles—one that significantly enhances the quality of life for Angelenos, that becomes an important destination for visitors, and that survives as a symbol of natural resilience and revival for the City itself.

The discussion of the Opportunity Areas that follows describes how habitat zones might be integrated into designs for these areas.

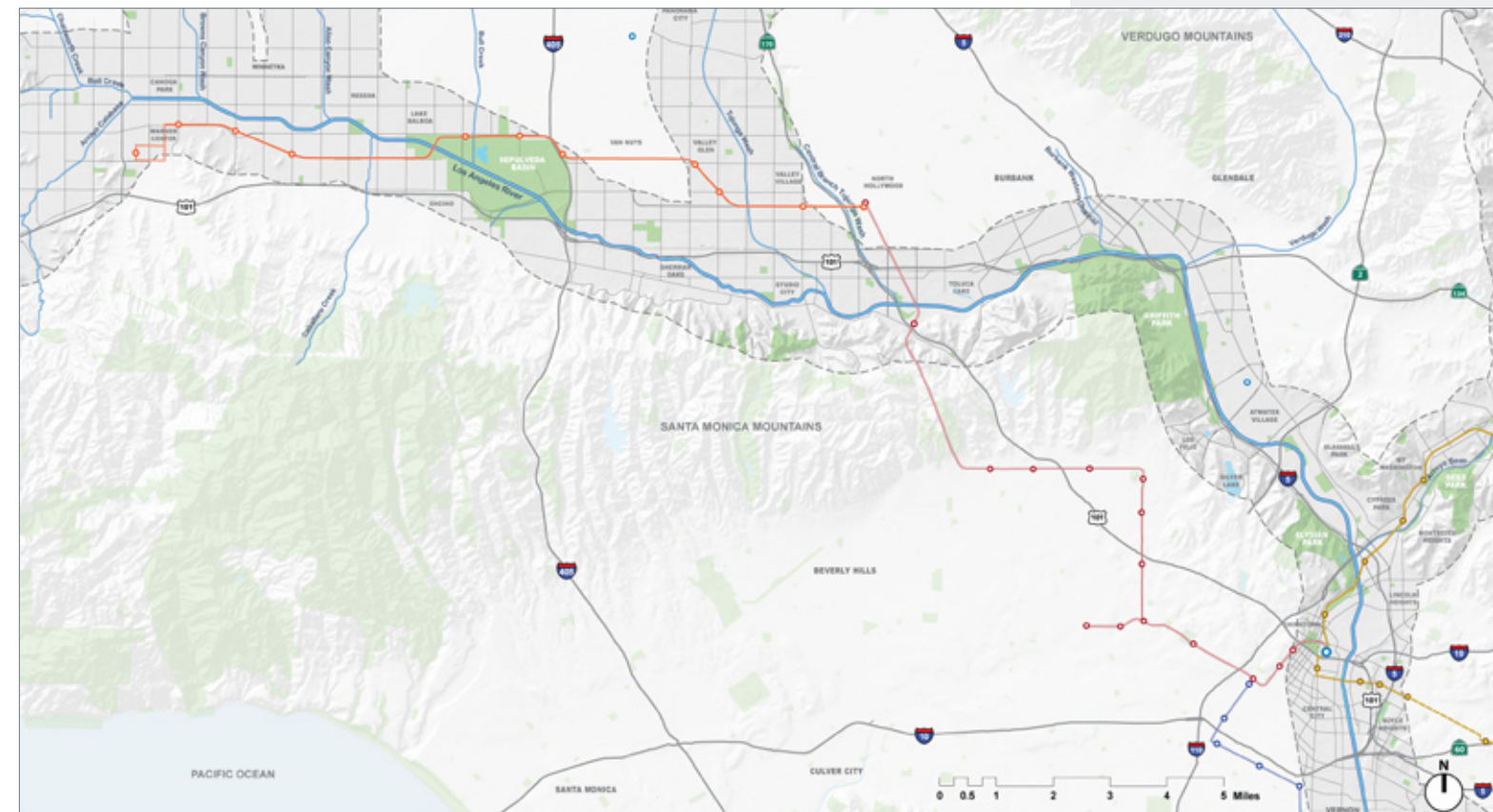
## GROUNDWORK FOR THE REVITALIZATION MASTER PLAN

Over the past two decades, Los Angeles communities, with many local, state, and federal government agencies and nongovernmental organizations, have engaged in efforts to revitalize the Los Angeles River and its watershed. The City of Los Angeles has invested in parks, bike paths, bridges, street improvements, and other projects. The County of Los Angeles has begun to implement the Los Angeles River Master Plan, adopted by the County Board of Supervisors in 1996. California's Conservancies and California State Parks have fostered the creation of numerous new open space amenities in the River Corridor—notably the establishment of the Los Angeles State Historic Park at the Cornfields and the Río de Los Angeles State Park at Taylor Yard. The U.S. Army Corps of Engineers is engaged in several studies to restore a functioning ecosystem within selected areas of the channel. Many nonprofit groups, including the Friends of the Los Angeles River (FoLAR), Tree People, North East Trees, The River Project, the Los Angeles and San Gabriel Rivers Watershed Council, the Trust for Public Land, and others have also worked tirelessly to raise public and civic awareness of the River's potential and to implement revitalization projects. Several research endeavors and associated data have been made available by educational institutes, including those of the University of Southern California's Center for Sustainable Cities' GreenVisions program and the University of California at Los Angeles Institute of the Environment.

In June 2002, the Los Angeles City Council approved establishment of the Ad Hoc Committee on the Los Angeles River to focus on the revitalization of the Los Angeles River and its tributaries. The Committee coordinates and partners with other stakeholders on major revitalization efforts, identifies linkages between projects and communities, recommends policy changes, and creates a City role for River revitalization. Chaired by Councilmember Ed Reyes, the Committee has focused on major revitalization issues, including opportunities for implementing projects, such as bridges, parks, bicycle paths, pedestrian trails, other recreational amenities, and programs to encourage public education, litter removal, job creation, community

development, tourism, civic pride, and improved water quality. Together these actions have served to bring value to neglected spaces and foster a sense of place along the River throughout the City.

In 2005, Mayor Antonio Villaraigosa formally endorsed the City Council's motion to develop this Los Angeles River Revitalization Master Plan (LARRMP). The LARRMP represents a milestone achievement for the City in its massive scope—coalescing diverse stakeholders around a revitalization agenda for the still often-overlooked Los Angeles River. The Plan is intended to be a 25 to 50-year blueprint for implementing a variety of comprehensive improvements that would make the River one of the City's most treasured landmarks and a catalyst for a sustainable environment.



The Los Angeles River and its tributaries.

## REVITALIZATION MASTER PLAN: A FRAMEWORK FOR CHANGE

The Los Angeles River Revitalization Master Plan provides a framework for restoring the River's ecological function and for transforming it into an amenity for residents and visitors to the City.

The Plan includes:

- Recommendations for physical improvements to the River corridor, and to the green space network in adjacent neighborhoods;
- Recommendations at a policy level for managing public access and ensuring public health and safety;
- Recommendations for a River governance and management structure; and
- Recommendations for short- and long-term priority projects and potential funding strategies.

## REVITALIZATION MASTER PLAN GOALS

### REVITALIZE THE RIVER

- Enhance Flood Storage
- Enhance Water Quality
- Enable Safe Public Access
- Restore a Functional Ecosystem

### GREEN THE NEIGHBORHOODS

- Create a Continuous River Greenway
- Connect Neighborhoods to the River
- Extend Open Space, Recreation, and Water Quality Features into Neighborhoods
- Enhance River Identity
- Incorporate Public Art Along the River

### CAPTURE COMMUNITY OPPORTUNITIES

- Make the River the Focus of Activity
- Foster Civic Pride
- Engage Residents in the Community Planning Process and Consensus Building
- Provide Opportunities for Educational and Public Facilities
- Celebrate the Cultural Heritage of the River

### CREATE VALUE

- Improve the Quality of Life
- Increase Employment, Housing, and Retail Space Opportunities
- Create Environmentally-Sensitive Urban Design and Land Use Opportunities and Guidelines
- Focus Attention on Underused Areas and Disadvantaged Communities

## THE RIVER’S FUTURE: A VISION FOR REVITALIZATION

Six decades after the River was first channelized, the City of Los Angeles faces an unprecedented opportunity to reverse the past and re-envision the River with promise and determination. The LARRMP presents a bold vision for transforming the River over the next several generations. Like Daniel Burnham’s ambitious plans for Chicago at the turn of the last century, this Plan acknowledges that great and transformative change may not be accomplished in one lifetime; it must remain in the minds of the people who will carry it forward. This Plan includes bold, long-term visions in addition to a series of practical and nearer-term steps that would make the River a much better place for today’s Angelenos. The vision for the River’s revitalization includes four core principles:

### REVITALIZE THE RIVER

The Los Angeles River Revitalization Master Plan provides opportunities to address a renewal of the River’s environmental qualities that can catalyze change in diverse communities throughout its 32-mile corridor. As a long-term goal, the River’s ecological and hydrological functioning can be restored through re-creation of a continuous riparian habitat corridor within the channel, and through removal of the concrete walls where feasible. If one completely restored the River to a naturalized condition throughout its entire length, it would be very difficult to achieve flood control requirements and maintain current urban development. However, bold thinking and big ideas can guide the realization of this kind of long-range vision.

In addition to restoring ecological function, revitalizing the River includes storing peak flows to reduce flow velocities in the channel in order to facilitate ecological restoration and access. The changes can enable the development of multi-benefit green spaces within the River channel that simultaneously provide open space and water quality benefits, and further provide examples of revitalization features that can be applied throughout the watershed.

## GREEN THE NEIGHBORHOODS

This second idea focuses on creating a green ribbon through the City, with green strands extending the River’s influence into adjacent neighborhoods in order to reconnect communities to the River and to each other. A continuous River Greenway would link a reliable network of “green connections,” bikeways, and pedestrian paths to the River and to public open space; “repurposing” schoolyards, vacant lots and educational campuses could help serve open space and recreation needs, as well as hold and clean stormwater. The River’s identity could be strengthened with signature elements, such as new signage, bridges, and gateway entrances.

## CAPTURE COMMUNITY OPPORTUNITIES

Since the City’s early years, neighborhoods have turned their backs to the River. Now the people of Los Angeles have the opportunity to enjoy the River as a safe, accessible, healthy, sustainable, and celebrated place. The opportunities that emerge would vary from neighborhood to neighborhood, but in all cases new benefits can be created that would encourage neighborhood enhancement, empowerment, and reinvestment where appropriate. The Plan’s multi-purpose recommendations also address important environmental justice issues by targeting brownfields for redevelopment, offering opportunities for non-vehicular commuting, and encouraging the creation of new recreational spaces for people of all ages. Further, natural spaces and trails would provide outdoor fitness and environmental education opportunities in neighborhoods that currently lack these amenities.

## CREATE VALUE

This Plan’s vision is also about creating value—improving the quality of life for residents, increasing the attractiveness of the City as a place to live and work, and increasing economic prosperity. Core elements of this idea include empowering communities by encouraging participation and consensus-building, creating opportunities for sustainable, economic reinvestment, and adding value and providing an equitable distribution of opportunities to underserved neighborhoods along the River.

As a symbol of a renewed, green City, the revitalized River would foster community identity and civic pride, thereby bringing communities together. As a recreational and commuter bikeway, the revitalized River would lead to a healthier lifestyle for many, reducing dependence on the automobile. As a functioning ecosystem, the revitalized River would provide habitat value and nature's services. As a living river, the revitalized River would play a role in educating young people about water, plants and animals. And, as a linear park, the revitalized River would provide park frontage and park access, inducing new residential, commercial, and "eco-industrial" development with its associated economic benefits.

### SPECIFIC RECOMMENDATIONS FOR REVITALIZING THE LOS ANGELES RIVER

The long-term vision for the River involves restoring a continuous, functioning riparian ecosystem along the River Corridor. This would involve restoring riparian vegetation to support birds and mammals, and ideally, developing fish passages, fish ladders, and riffle pools to allow for restoration of steelhead trout habitat.

In the short-term, channel walls can be modified to provide green landscaped terraces for wildlife habitat, water quality treatment, and increased public enjoyment. A system of pathways and overlooks can provide safe public access. Accomplishing long-term improvements would involve expansion of channel capacity and reduction in flow velocity. These can be achieved through a combination of flood storage outside the channel, underground flow diversions, and, over the long-term, land acquisition including purchase of private property to allow for channel widening.

### SPECIFIC RECOMMENDATIONS FOR GREENING THE NEIGHBORHOODS

A major element of reconnecting neighborhoods to the Los Angeles River is the transformation of the River Corridor into a continuous River Greenway that functions as the "green spine" of the City. Safe, pedestrian-friendly connections to the Greenway can be provided via a system of arterial and local "green streets" that are bicycle- and pedestrian-friendly, and paseos with wide sidewalks and shady tree canopies. To

improve habitat connectivity, specific recommendations are presented to aid in the restoration and creation of habitat linkages throughout the River Corridor.

As this system develops, signature elements—gateways, bridges, paseos, plazas, and other landmarks—can be added to reinforce the River's identity. Building on past efforts, public art can be a major component of this system. Within neighborhoods, underused or vacant space, as well as existing public spaces such as schoolyards, can be refurbished and made a part of the emerging green network and enhanced cultural landscape.



Long-term improvements modify the channel to restore habitat and provide terraced access to the River's edge.



A proposed secondary channel in the Chinatown-Cornfields Opportunity Area could provide an accessible and active River edge.



A cantilevered Greenway Path provides recreational access along a constrained portion of the River.

### OPPORTUNITY AREAS CAN DEMONSTRATE REVITALIZATION

One revitalization strategy critical to realizing the goals of the Plan is the implementation of early examples that can exhibit cross-cutting development possibilities. To demonstrate opportunities made possible with a revitalized River, 20 “Opportunity Areas “ were identified along the River corridor to illustrate what might be feasible through implementation of various River improvement scenarios. The Opportunity Areas also represent approaches to address conditions that recur along the River; for example, constriction of the River corridor by rail lines, limited right-of-way (ROW) through residential neighborhoods, and physical barriers in areas of industrial development.

Five of the Opportunity Areas were selected for more detailed development of revitalization concepts, including economic analysis:

**Canoga Park:** Creation of a community park and restoration of the River’s ecological function, including naturalization of the concrete channel, and a ponded area extending from Canoga Avenue to Owensmouth Avenue.

**River Glen:** Restoration of riparian habitat and creation of a large water quality treatment wetland at the confluence of the River with Verdugo Wash. An alternative scenario also incorporates parkland and a portion of the proposed River Greenway.

**Taylor Yard:** Restoration of riparian habitat, naturalization of the River channel, and creation of a large water quality treatment wetland.

**Chinatown-Cornfields:** Realignment of the River channel to create a naturalized diversion channel and riparian island that would allow ponding water for recreation, along with a large community park on an opposite bank. An alternative scenario creates a more urban river edge featuring a pond area with promenades and overlooks.

**Downtown Industrial Area:** Creation of three street-end parks on the east side of the River, connecting the Boyle Heights community and the emerging Arts District to the water’s edge with terraces. An alternative scenario would create more urban plazas and promenades along the eastern edge of the River. A ponded area would be established in both alternatives.

The drawings that illustrate these ideas are intended to be conceptual in nature and to represent a range of possibilities. Improvements that may be proposed for individual neighborhoods will be developed through an extensive Community Planning process with active involvement of neighborhood residents.



A proposed Riverfront Park in the Canoga Park Opportunity Area provides much needed open space adjacent to the River, an existing public high school, and upland areas that provide habitat for birds and small mammals.

## CREATING VALUE: THE BENEFITS OF REVITALIZATION

Making the River green and accessible is expected to transform an undervalued asset into a valued amenity. Revitalization offers the opportunity for communities to engage in development that leads to an improved natural environment while also attracting investment that leads to new jobs, increased property values, more livable streets, and sustainable growth.

To assess the potential benefits of revitalization and to illustrate possible design ideas, different land use possibilities were explored for some of the Opportunity Areas and developed into hypothetical designs and three-dimensional models. Each of these models retains existing significant buildings, and proposes building typologies and massing that are realistic in the prevailing market. The Taylor Yard Opportunity Area's analysis was devoted primarily to natural and open space considerations. This Area presents great promise as an early example of concrete removal that can result in significant water quality, habitat, and recreation benefits. Additionally, the Area's close proximity to a planned high school makes it an ideal location to create outdoor classrooms and other environmental education features.

Estimates of economic benefits accruing to the proposed revitalization concepts for the selected Opportunity Areas (combined, at full build-out) range from \$2.7 to \$5.4 billion in new development, 11,000 to 18,000 new jobs, and a long-term tax revenue increase ranging from \$47 to \$81 million, annually.

## A COMMUNITY PLANNING FRAMEWORK FOR REVITALIZATION

Implementation of this Revitalization Master Plan would take place within the existing City planning and zoning context. An important next step, following adoption of this Plan, would be to update existing Community Plans in areas that include the River, through an inclusive community involvement process. The City's established community planning process is the most appropriate way to formalize revitalization proposals because it gives each unique neighborhood an opportunity to tailor River developments to the

sentiments expressed by local stakeholders. Zoning changes may also follow these Plan updates.

To complement the Community Plan process, a River Improvement Overlay (RIO) district would be created, with three important functions:

- Establish a high-quality interface between private property and the River;
- Increase open space and improve environmental quality; and
- Create active pedestrian streets leading to the River.

## A MANAGEMENT STRUCTURE FOR A REVITALIZED RIVER

A three-tiered structure is proposed for managing a revitalized Los Angeles River.

Because of the multiple public entities with jurisdiction over various aspects of the River, the management structure must be comprehensive, flexible enough to allow these entities to work in collaboration, and comprehensive enough to proceed independently when necessary.

The Plan's proposed River management structure includes three elements:

- **Governmental:** The Los Angeles River Authority, a joint powers authority (JPA) that includes the City of Los Angeles, the County of Los Angeles, and through a memorandum of understanding (MOU), the U.S. Army Corps of Engineers. The JPA would serve as the principal entity with authority and responsibility for River reconstruction, right-of-way management and maintenance, assuming responsibilities for public liability, permitting, and land development.
- **Entrepreneurial:** The Los Angeles River Revitalization Corporation would be a not-for-profit entity charged with directing public and private financing for River-related and neighborhood revitalization projects.
- **Philanthropic:** The Los Angeles River Foundation would be a not-for-profit body established by private individuals to support the Plan's revitalization goals.

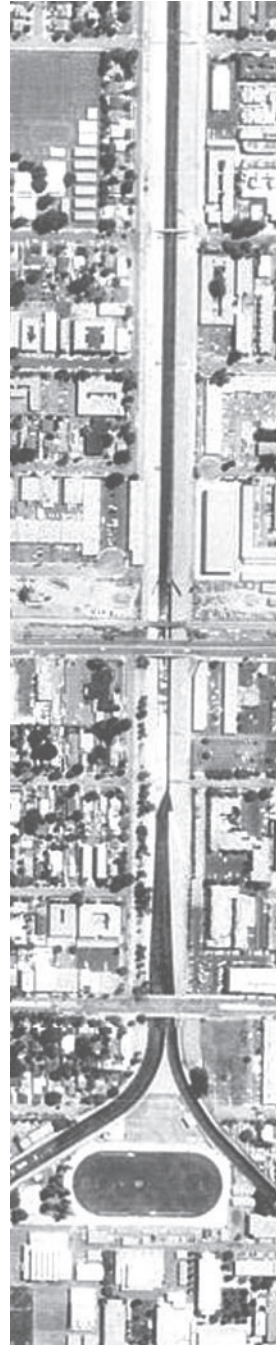
This new management structure would enable the City and its partners to maintain a long-term focus on River revitalization in order to ensure that the River remains a priority for future generations.



top - The proposed Riverside Street typology activates River adjacent streets with a retail edge including sidewalk cafes throughout the River Corridor.

bottom - Proposed Green Streets throughout the River Corridor improve non-motorized connectivity to the River.





# INSPIRATION 1

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



The Los Angeles River begins at the confluence of the Arroyo Calabasas and Bell Creek in Canoga Park (2006)

## THE LOS ANGELES RIVER REVITALIZATION MASTER PLAN: A FRAMEWORK FOR CHANGE

The Los Angeles River Revitalization Master Plan provides a framework for restoring the River's ecological function and for transforming it into a valuable, celebrated resource for residents and visitors to the City.

The Plan includes:

- Recommendations for physical improvements to the River Corridor and to the open space network in adjacent neighborhoods;
- Recommendations at a policy level for managing public access and ensuring public health and safety;
- Recommendations for a River management structure; and
- Recommendations for short- and long-term priority projects and potential funding strategies.

## THE RIVER'S PAST

### HISTORIC SETTLEMENT IN THE LOS ANGELES RIVER CORRIDOR

The River is the original source of life for the City of Los Angeles. Once plentiful with wetlands and marshes, filled with willows, alder, sycamore, steelhead trout, and grizzly bears, it was home to the Tongva people for thousands of years. The Spanish arrived in 1542 when Juan Cabrillo visited the area. On August 2, 1769, the first recorded words about Los Angeles were written by Father Juan Crespi, the diarist for the Spanish expedition to find sites for Franciscan missions between San Diego and San Francisco. The expedition, led by Captain Gaspar de Portola and Father Junipero Serra, entered what is now Los Angeles through Elysian Park after crossing the Arroyo Seco. Since the first two days of August marked the annual feast of Our Lady of the Angels of Porciúncula, the valley and the River were named "El Rio y Valle de Nuestra Señora la Reina de Los Angeles de la Porciúncula" ("The River and Valley of Our Lady the Queen of the Angels on the River Porciúncula"). The River's name came to be known as "Rio de Porciúncula," but thereafter became known as "Rio de Los Angeles." (De Graaf, et al., 2001)

The River's early settlers were culturally diverse. In 1781, a group of 46 Spanish and Mexican settlers established the Mission Nuestra Señora Reina de los Angeles along its banks. Records indicate that 26 of these original settlers were of African or part-African ancestry.

The new pueblo grew slowly at first. Even in 1820, as the largest civilian community in Spanish California, it had only 650 residents. The Gold Rush of 1849, however, brought large numbers of people to California, including the southland, and in 1850, the City of Los Angeles was incorporated. This changed the character of the River dramatically, as it provided the water and transportation route that allowed the City to grow. Railroads arrived when the Southern Pacific completed its line to Los Angeles in 1876 and were typically aligned along the along the River—they remain a significant characteristic of the River's environment.

Industrial land uses began encroaching upon the River following the alignment of many of the rail lines. With extensive building in the growing City and the encroachment into the River's floodplain came the inevitable damage due to extreme flood events. Homes and businesses were flooded on numerous occasions in the first half of the 20th Century. Especially in the 1910's and again in the late 1930's, devastating flooding prompted the Los Angeles County Flood Control District to request federal support for flood damage reduction along the River. In 1936, Congress directed the United States Army Corps of Engineers to construct the concrete-lined channel that now conveys the River for most of its 51-mile length.



Looking eastward, just south of Elysian Valley in 1887 (Los Angeles Public Library Photo Archives; used by permission)

## CHANNELIZATION AS A RESPONSE TO DEVELOPMENT IN THE RIVER'S FLOODPLAIN

Channelization of the River was intended to provide armor against the floods, but while limiting the potential for damage outside the channel, it also ended up increasing the force of the water, causing even more powerful flows within the channel. Channelization also divided neighborhoods from each other and from nature. By taking the River's water away from the City, wetlands and other habitats were dried up and the River's ecological functions were lost.

Over time, with the establishment of railroads, warehouses, and other industrial uses that line the River's edge, the River has become both literally and figuratively isolated from people and communities. Most people cannot even see the River, let alone enjoy it as a valuable public resource and symbolic place of origin for the City. In the six decades since the River was paved, it has been treated as an unwelcome guest in many neighborhoods.

Like many railroads, the River travels through the undesirable and neglected parts of the City—the back of everything—including backyards, warehouses, trash dumps, power lines, and freeways—certainly not the rich and thriving ecological environment that once existed.

The Los Angeles River is the original source of life for the City of Los Angeles. It is where the Tongva and, later, the Spanish built the City's first settlements and where, today, ethnically diverse neighborhoods prosper. In the 19th and 20th centuries, the River powered the City's industry and served as an important transportation corridor, creating economic value and growth. As development encroached upon the River's floodplain, eventual flooding destroyed homes and property, harming people and wreaking havoc on some of the City's most significant original settlements.

### The Los Angeles River - Past to Present



1868 (A. L. Bankcroft and Co.)

1894 (Semi-tropic Homestead Company)

1909 (Birdseye View Publishing Company) 2006 (City of Los Angeles)



Army Corps of Engineers' physical hydraulic model (Los Angeles Public Library Photo Archives; used by permission, circa 1940.)

“After traveling about a league and a half through a pass between low hills we entered a very spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river from north-northwest, and then, doubling the point of a steep hill, it went on afterward to the south.”

*Father Juan Crespi, upon entering what is now Los Angeles through Elysian Park in 1769.*



Building physical models of the River channel. (Los Angeles Public Library Photo Archives; used by permission, circa 1940.)



A pre-channelization image of the Los Angeles River, looking east towards the Elysian Valley from Elysian Park, 1910 (Los Angeles Public Library Photo Archives; used by permission.)

## LOS ANGELES RIVER TIME LINE

5,000 B.C.E. - 1700's - Tongva and Yangna Indian villages along the River

1769 - Gaspar de Portola and father Juan Crespi name the River

1781 - El Pueblo de la Reina de Los Angeles is founded where Olvera Street now exists

1825 - A massive flood cuts a new path south of the pueblo to San Pedro Bay

1850 - Los Angeles incorporated as a City

Mid 1800's - Development boom results in homes and businesses being built in the floodplain

1910 - City passes ordinance prohibiting dumping in the River

1910-1933 - Many of the historic bridges are built, while levees are built along more than a third of the River

1914 - Major flood causes widespread damage

1918 - Increasing industrialization along the River's banks

1921 - Flood control construction moves the mouth of the River one mile east

1934 - Massive flooding occurs causing Congress to authorize concrete channels

1935 - Army Corps begins channelization

1938 - Most devastating flood on record

1941 - Sepulveda Dam is completed

1979 - Sepulveda Basin Wildlife Reserve is established

1979 - Legislation to establish Santa Monica Mountains Conservancy (SMMC)  
(Jan 1, 1980: SMMC born)

1985 - Group of artists and poet Lewis McAdams found the Friends of the Los Angeles River (FoLAR)

1989 - Mayor Tom Bradley establishes first task force on the River to look at potential River improvements

1990 - County of Los Angeles River Task Force is formed and restoration efforts begin

1992 - Proposition A: County receives open space assessment district funds to provide new River access through parks and bike trails (with additional funding occurring in 1996)



A current view of the Los Angeles River, looking east towards the Elysian Valley from Elysian Park (2005)

1992 - Los Angeles County establishes the Los Angeles River Advisory Committee to overlook the County's Los Angeles River Master Plan

1993 - The California Coastal Conservancy publishes The Los Angeles River Park and Recreation Survey, identifying potential projects along the River

1994: Knox Avenue/ "Elysian Gateway Park", SMMC and MRCA buy land and build first of series of pocket parks along LA River in Elysian Valley section

1996 - The City passes Proposition K, which secures money for improvement, construction, and maintenance of City parks and for land acquisition.

1996 - The County of Los Angeles River Master Plan is approved by the Board of Supervisors.

1997 - First segment of Los Angeles City Los Angeles River Bike Path opens, adding to 17 miles of Los Angeles County Los Angeles River bike trails

1998: SMMC and MRCA purchase Lawry's and renovate for Los Angeles River Center and Gardens (with City, County, State funding).

2000- The State passes Proposition 12 for Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection, contributing millions of dollars to Los Angeles River projects.

2000- The State passes Proposition 13 Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act.

2002- The State passes Proposition 50 to allocate money to clean up the drinking water supply, and watershed.

2002- The State passes Proposition 40, which allocates \$2.6 billion in bonds for natural resource conservation, parks, and historical and cultural resources.

2002- The Ad Hoc Committee on the Los Angeles River is established by Council.

2002 - Los Angeles River Trash TMDL was adopted

2003 - Los Angeles River Nutrient TMDL was adopted.

2003 - Los Angeles River City Department Task force is established and chaired by the City Engineer.

2004 - The City passes Proposition O which raises \$500 million in bonds for watershed protection.

## BUILDING ON A STRONG FOUNDATION

### THE GROUNDWORK AND MANDATE FOR THE PLAN

The reality of the River today and the motivation for its revitalization stem from an understanding that it is the City's very heart, and that the City, in turn, is essential to the River's ultimate restoration. This relationship is eloquently summarized by noted American conservationist, forester, philosopher, educator, writer, and outdoor enthusiast, Aldo Leopold (1887-1948), who believed that, "the way we treat rivers reflects the way we treat each other."

Over the past several years, Los Angeles communities, with many local, state, and federal agencies, and nongovernmental organizations, have begun efforts to revitalize the Los Angeles River. The City of Los Angeles has invested in bikeways, bridges, parks, bike paths, public art, and street improvements. The County of Los Angeles developed the Los Angeles River Master Plan (adopted by the County Board of Supervisors in 1996), and has established important landscaping and signage guidelines for the River. Currently, the U.S. Army Corps of Engineers is engaged in several studies to restore a functioning ecosystem within selected areas of the channel. The recently completed greater Los Angeles Integrated Regional Water Management Plan (December, 2006) suggests that regional solutions to improve stormwater runoff quality are most cost effective when constructed adjacent to the River and combined with River revitalization efforts. Many grants have been received for trees, pocket parks, bikeways, and other features that contribute to the greening of the River corridor.

Many nonprofit groups, including the Friends of the Los Angeles River (FoLAR), Tree People, North East Trees, The River Project, the Arroyo Seco Foundation, The Coastal Conservancy, and the Trust for Public Land have also worked tirelessly over the past two decades to raise public and civic awareness of the River's potential, and to sponsor and implement revitalization projects, including pocket parks, landscape improvements, and water quality treatment areas. In particular, TreePeople produced the Sun Valley Watershed Management Plan (with the County of Los Angeles) and the Hull House demonstration site; North East Trees has developed numerous greenway parks and with the Arroyo Seco Foundation produced the Arroyo Seco Watershed Management Plan;

The River Project produced Tujunga/Pacoima Watershed Management Plan as well as earlier studies and planning efforts for Tujunga Wash, Taylor Yard and, with the County, implemented the Valleyheart Greenway. Also through sponsorship of public education programs, River cleanups, monitoring studies, and physical improvements, groups such as these have long-carried the torch for revitalizing the River.

There are several additional significant efforts focused on the watershed, and particularly along the rivers in the basin. Organizations such as the Mountains Recreation and Conservation Authority and its partner organization, the Santa Monica Mountains Conservancy, along with the Rivers and Mountains Conservancy, and the Los Angeles and San Gabriel Rivers Watershed Council are all engaged in planning, designing, and building community, neighborhood, open space, parks and trails along the River and throughout the County. These projects demonstrate that greening publicly-owned, underutilized lands provides an important environmental education function that increases awareness of the value of rivers and their relationships to the entire watershed.



Councilmember Reyes discusses the River with residents during a public workshop in Lincoln Heights. (First Council District, 2005)

## THE AD HOC COMMITTEE ON THE LOS ANGELES RIVER

In June of 2002, the Los Angeles City Council established the Ad Hoc Committee on the Los Angeles River. The Council Committee coordinates and partners with other stakeholders on major revitalization efforts, identifies linkages between projects and communities, recommends policy changes, and creates a City role for River revitalization. Chaired by Councilmember Ed Reyes, the Committee has focused on major revitalization issues, including opportunities for parks, bicycle paths and pedestrian trails, recreation, nature, neighborhood identity, jobs, community development, tourism, civic pride, neighborhood redevelopment, water quality and supply, revaluing neglected space, and fostering a sense of place along the River throughout the City. Membership of the Committee includes Council representatives from Districts 1, 4, 9, 13 and 14, through which the River flows.



Councilmember Huizar answers questions at a public workshop, as City Engineer Gary Lee Moore listens. (2006)

In addition to this Plan, the Ad Hoc Committee has spearheaded the following efforts contributing to the River's revitalization.

### Policies

- Adoption of City Guiding Principles for the Los Angeles River
- Recommended expansion of the High Speed Rail Corridor Study Area
- Los Angeles River Revitalization is now part of the City's legislative agenda
- Promotion and creation of a City Task Force with the plastic industry to address plastic litter in the River in support of water quality TMDL (total maximum daily load) requirements.

### Plans and Studies

- The City is in partnership with the U.S. Army Corps of Engineers to work jointly on a River-wide feasibility study that will complement the City's revitalization plan.
- Through the efforts of the Thirteenth Council District and the Department of City Planning, the Silver Lake Specific Plan has been amended and now designates certain zones, land uses, and conditions along the River for open space, frontage, and access.
- Establishment of a Los Angeles River Planning Unit within the Department of City Planning

### Public Outreach and Education

- A Los Angeles River web site ([www.lariver.org](http://www.lariver.org)) was established for Committee activities and Revitalization Master Plan updates, and has received over 50,000 visits every year.
- The Committee sponsored five design workshops that worked with communities to create new designs for three different reaches of the River. These workshops were called "Great Outburst Of Design Initiatives" or GOODIs.
- The annual Los Angeles River Day memorializes past works, supports future efforts, and increases public awareness of the River.
- Over 20 community partners assisted in coordination of the 2005 "The Future is Now" Los Angeles River campaign, poster, and calendar.
- The Bureau of Sanitation created "Linking Us Together"—an eight-minute video promoting a vision for Los Angeles River revitalization.
- Anti-litter campaigns and plastic recycling programs are currently underway.

2004 - The County Master Plan Advisory Committee establishes official landscape and signage guidelines for the River and the Right-of-way.

2004 - First Los Angeles City River Appreciation Day is celebrated.

2005- The Silver Lake/Echo Park/Elysian Valley community plan was adopted in 2004. Also, the "mile marker" pilot program became fully operational in 2005.

2005 - City of Los Angeles approves and completes official river signage and mileage markers program for the River.

2005 - A portion of the Zanja Madre, the "Mother Ditch," the original water system for the city, is discovered during Metro Gold Line construction in the Cornfields.

2005 - Catch basins inserts and covers are the first project funded by Prop O that would install 8000 inserts and 6000 covers to prevent trash from flowing into the Los Angeles River and Ballona Creek.

2005- Los Angeles River and Ballona Creek trash TMDL were revised and adopted.

2005- The Plastic Bag Taskforce for the City of LA is established to address plastic litter in the Los Angeles River.

2005- The City issues a RFP for the Revitalization Master Plan and Tetra Tech Consultant Team is selected to develop the Los Angeles River Revitalization Master Plan.

2005-2007 - As part of the LARRMP, 20 public workshops are held to encourage community input.

2006 - Los Angeles River Planning Unit is established in the Planning Department.

2006 - City of Los Angeles' Integrated Resources Plan is approved.

2006 - City signs an agreement with US Army Corp of Engineers to cosponsor the Los Angeles River Ecosystem Restoration Study valued at 10 million dollars.

2006 - Integrated Regional Water Management Plan is approved for the region.

2006 - First Youth Workshop on the Los Angeles River takes place. Over 500 students attend.

2006 - California State Historic Park opens at the Cornfields

### Funding and Resources

- The Ad Hoc Committee’s most significant activity in regard to funding was the introduction and support for the passage of the \$500 million Proposition O measure for Clean Water, Ocean, River, Beach, Bay, and Storm Water Cleanup, in 2004.
- The City was successful in obtaining \$25 million for the region and has continued to pursue state-level funding through California State Proposition 50 (the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002) and federal legislation.
- Federal legislation was introduced by Congresswoman Lucille Roybal-Allard and Senator Barbara Boxer.
- The City’s recent budget includes a list of over 50 River-adjacent projects in planning, design, or construction valued at over \$650 million dollars, including proposals for parks, transportation, and water quality projects.

### Riverwide Projects

- Councilmember Wendy Greuel (Second Council District) completed the Los Angeles River Greenway Project in her district’s Studio City neighborhood.
- Councilmember Tom LaBonge (Fourth Council District) initiated the North Atwater Riverside Park adjacent to the River, which is currently being designed.
- Councilmember Eric Garcetti (Thirteenth Council District) initiated work on the Elysian Valley Bikeway, which is expected to be completed in 2007.
- Fifteen River bridges are in various stages of design and construction.
- The State Department of Parks and Councilmember Ed Reyes (First Council District) worked together to establish two state parks: Los Angeles State Historic Park and Río de Los Angeles.

### Management and Partnerships

Established by the Ad Hoc Committee in 2003, the Los Angeles River City Department Task Force, chaired by City Engineer Gary Lee Moore, ensures that the City’s various departments share information, collaborate on projects, and explore other opportunities for River revitalization. Work completed to date includes:

- Partnerships with the County, State Conservancies, and the Army Corps of Engineers
- Development of a Los Angeles River Emergency Response Signage System
- Development of a Los Angeles River identification signage program
- Enabling the City’s NavigateLA River Mapping Section to provide the River’s project status information

- River-adjacent project review coordination between the Department of Building and Safety and the Department of City Planning
- Acting as the City’s staff review forum for the Revitalization Master Plan process
- Leadership in integrating the River into the City’s Integrated Resources Plan (IRP) and the County of Los Angeles’ Integrated Regional Water Management Plan (IRWMP)

The City’s recent collaboration with the County of Los Angeles helped complete the application for projects under the Integrated Regional Water Management Program (Proposition 50, Chapter 8) for State funding of projects with watershed-scale benefits. The collaboration proved successful in bringing \$25 million to the region and demonstrated the City’s increasing ability to form regional partnerships for future funding and legislation in support of the River and its watershed.



Councilmember Perry answers questions at one of the Community Workshops. (First Council District, 2005)

# MASTER PLAN SCOPE AND PLANNING HORIZON

## SCOPE

The Los Angeles River Revitalization Master Plan (hereafter the Plan) provides both a long-term vision and implementation guidance for revitalizing the River. It is intended as a framework, establishing the vision and guidelines for implementation, yet allowing substantial latitude for the details of specific projects to be crafted through community and neighborhood planning processes.

Developed through an extensive community involvement process, the vision represents what residents value about the River, and what they would like to see it become.

Specific recommendations for realizing this vision are provided in three areas:

- Physical improvements within the River channel and connecting to adjacent neighborhoods;
- Improvements to current policies for managing public access to the River and for ensuring public health and safety; and
- Governing and managing the River as an amenity and asset.

The Plan also provides recommendations at three geographic scales:

- Improvements within the River channel and the existing right-of-way;
- Improvements within adjacent neighborhoods, to provide safe access to the River and its new amenities and to encourage creation of more neighborhood-scale green space; and
- Capturing community opportunities along the River and opportunities for making the River the “front door” of the City.

## REVITALIZATION PLAN AREA

The Plan area includes all 32 miles of the River as it flows through the City of Los Angeles, from its “point of origin” at the confluence of Arroyo Calabasas and Bell Creek in Canoga Park, to the City limits south of downtown. The Plan recommends improvements along the entire 32 miles, and for five Opportunity Areas which are examined in greater detail.

## RELATIONSHIP TO CURRENT AND PAST PLANS

The Plan complements and reinforces the many water resource and waterway planning efforts that have been completed within the watershed that concern issues such as flood storage, water quality, ecosystem restoration, and recreation. The many documents that have been reviewed to prepare this Plan are listed in the references section.

## PLANNING HORIZON

Restoring the ecological function of the River and transforming it into a public and civic amenity will take time. The Plan acknowledges that implementation of the long-term vision for revitalization will require an adaptive, phased approach:

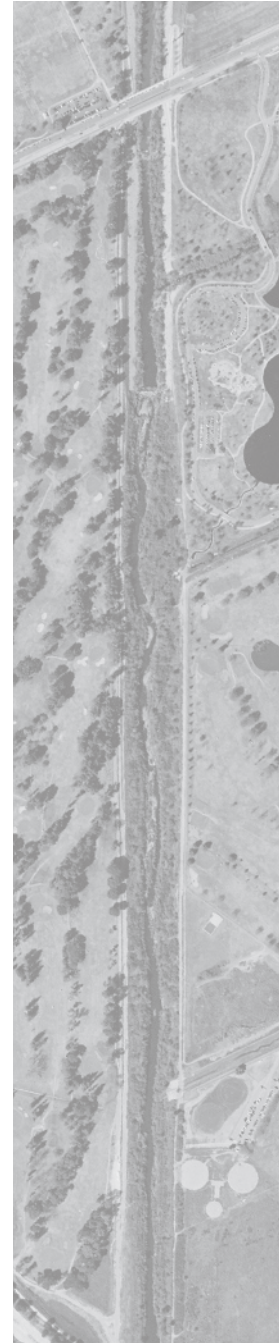
- Near-term opportunities that improve access, recreational value, water quality treatment, and non-motorized transportation that could be realized in a 5 to 15-year time horizon.
- Longer-term and more far-reaching changes that revitalize the River’s natural functions could take 25 to 40 years or more to achieve.

While realizing that the overall vision may take time, it is important to remember that even incremental River changes are associated with beneficial outcomes. For example, a buy-back policy to acquire land adjacent to the River to support channel widening and restoration of a riparian corridor might take decades to complete. In the meantime, individual parcels could be acquired in the near-term that could selectively become recreational parkland providing water quality features for urban runoff treatment.



# VISION 2

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



The Los Angeles River, through the Sepulveda Basin Flood Control and Recreation Area (2006)



Imagine, an active and revitalized Los Angeles River.

## THE RIVER AS THE SOUL OF THE CITY

The River has been the heart of the City, providing life and form to Los Angeles ever since the indigenous Tongva people lived in the area thousands of years ago. The River's path—from the narrow headwaters, through the fertile valleys, around the Hollywood Hills at Griffith Park, and out to the ocean—has shaped the development around it. Although not navigable like other classic urban rivers, the Los Angeles River is one of the most critical components of the City's infrastructure—now rendering raging flood flows harmless to protect adjacent development.

In the process of altering the River for human purposes, we have erased the most dominant natural system in the City and created a highly-engineered infrastructure that robs our aquifers from replenishment, contributing to the need to import vast quantities of drinking water. We have eradicated numerous plant and wildlife species that contribute to a balanced environment, and have robbed people of the open space that is necessary for human health and well-being. And, by erasing the River's natural system, we have taken away the essential childhood experience of learning through observing nature. Most of our neighborhoods lack any place where children can skip a stone, see the reflection of the sky, listen to the sounds of the croaking frogs or the rustle of willow leaves in the wind. Instead, we encourage our school children to participate in beach and river clean-ups and test water quality to determine our success in reducing heavy metals and other pollutants.

Most great cities are considered to be attractive places to live because they offer productive conditions for business, culture, and leisure. A great city should also be a healthy place without environmental hazards and one that provides the opportunity to live a healthy lifestyle. Adequate open space resources with land devoted to recreation are essential for a healthy population. In Los Angeles the amount of open space per thousand people varies from 32 acres in upper income areas, to less than 1 acre per thousand people in predominantly minority neighborhoods. (Sherer 2006) These are directly correlated with the public health epidemics of obesity and diabetes, which are highest among low income minorities. The Centers for Disease Control and Prevention has called for more parks, green space, and playgrounds to help reverse this health trend. (Sherer 2006)

Other benefits from increasing the number and size of open spaces in cities include: community pride, a sense of security, reductions in crime, and greater social well-being. An October 2006 article in National Geographic suggests that the presence of leafy green places, trees, and the beauty and scents of nature satisfy fundamental human, personal and social needs, and that cities are healthier in many ways when green places are preserved or re-created:

That we should find nature rejuvenating is hardly surprising. After all...[we] arose not in cinderbelt but in wild forests and grasslands. Our ears are made not for the stinging scream of sirens but for the sly scratch of a predator's paws and the whistle of wind that warns of impending weather. Our eyes evolved to tease apart not the monotonous grays of cityscapes but the subtle gold, olive, and burgundy hues that signaled ripe fruit and tender leaves, and our brains to reward our sensory efforts with deep feelings of pleasure. (Ackerman 2006, p. 110)

The value of bringing nature back into urban areas through the planting of trees also has tangible restorative benefits regarding the removal of air pollutants, a reduction in the volume of greenhouse gases, and the cooling of heat islands caused from existing hard surfaces such as pavement and roofs. A study by the University of Illinois found that, "people living in buildings near green areas had a stronger sense of community and coped better with everyday stress and hardship." (p. 112) Moreover, greener environments can result in lower crime rates and, according to the researchers, "children with attention deficit disorders showed reduced symptoms when they were exposed to natural environments." (p. 112)

Given these possibilities, the Los Angeles River offers one of the greatest opportunities to revitalize the physical health of communities and the City as a whole. One of the most unique things about Los Angeles has been its ability to reinvent itself over time. The dramatic growth of the City's urban population over the past century demands a corresponding change in the way public services are provided. Los Angeles has been a City of progress, but the value of our past should not be ignored. Our River was once a vibrant natural system that provided substance and maintained a healthy environment. Restoring and revitalizing the River can breathe new life into neighborhoods and nurture the souls of residents, becoming a springboard for the greater success of the City itself.

The most powerful impact of River revitalization on the City might come from three simple ideas:

- The River can become the living, green spine that connects nature and communities, providing space for active and passive recreation, and room for residents to interact with each other and their natural environment.
- The River can grow in the minds of current and future generations by engaging children in the beauty and wonders of nature, inspiring interest in the environment and the sciences.
- The River can again become the heart and soul of the City as a great place to live, grow and prosper.



Imagine, a new habitat and water quality area at the confluence of the Verdugo Wash and the Los Angeles River.

# THE RIVER'S FUTURE: REVITALIZATION VISION AND GOALS

*Six decades after the Los Angeles River was first channelized, the City of Los Angeles faces an unprecedented opportunity to reverse the past and reenvision the River as the soul of the City. The Los Angeles River Revitalization Master Plan (the Plan) sets forth a bold vision for transforming the River over the next several generations. This Plan acknowledges that great and transformative change may not be accomplished in one lifetime, yet it must remain in the minds of the people who will carry it forward. Thus, the Plan includes bold long-term visions, but also nearer-term steps that will make the River a valuable, celebrated place.*

The vision for the Los Angeles River's revitalization includes four basic organizing principles:

- Revitalize the River
- Green the Neighborhoods
- Capture Community Opportunities
- Create Value

These organizing principles are the foundation around which the Plan's goals have been identified. These goals stem from those first established by the City of Los Angeles' Ad Hoc Committee on the Los Angeles River. Each of these four organizing principles, their supporting goals, and specific recommendations to achieve them is addressed in more detail in the chapters that follow.

## 1. REVITALIZE THE RIVER

The Los Angeles River is the catalyst that can drive many other revitalization initiatives. As a very long-term goal, its ecological and hydrological functioning can be restored through creation of a continuous riparian habitat corridor within the channel, and through removal of concrete walls where feasible. While completely restoring the 32-mile River to a naturalized condition is not likely feasible given flood control requirements and current urban development, it is likely that the River channel could be naturalized in significant stretches that are part of the Plan's long-range vision.

Three goals complement the effort to begin to restore a functioning ecosystem. The first focuses on off-channel storage of peak flood flows in order to reduce flow velocities, which is a necessary precondition for additional greening of the River channel and for ecosystem restoration. Second, the Plan seeks to improve the quality of water within the Los Angeles River through implementation of a comprehensive, landscape-based system for treating stormwater runoff. Third, the River channel itself should offer safe public access—during periods of low flows—so that it becomes a focus for recreation and enjoyment in areas that are especially lacking in these amenities.

## 2. GREEN THE NEIGHBORHOODS

The overall beauty of Los Angeles can become incredibly enhanced through the creation of greener neighborhoods with more open space, trees, and parks. This second organizing principle, therefore, focuses on the goals of developing a continuous, 32-mile Los Angeles River Greenway that acts as the centerpiece of the City's green space system. The River Greenway would be linked to an overall network of "green street" connections that extend the River's influence into adjacent neighborhoods and provide safe, non-motorized access between the River and public open space. Further, as the River Greenway system develops, new linkages would be created that strengthen the connectivity between riparian systems along the River, upland habitat in parks and natural open space, and functional habitat in the mountains.

Complementary goals include "re-purposing" schoolyards, underused property, and other public and private open spaces for multipurpose—even temporary—shared use; cleaning stormwater through the use of best management practices (BMPs) in public landscapes; strengthening the River's identity by using signature elements, such as gateways and innovative bridges; and creating a program to introduce more opportunities for art along the River.

## LOS ANGELES RIVER REVITALIZATION MASTER PLAN GOALS

1. REVITALIZE THE RIVER
  - Enhance Flood Storage
  - Enhance Water Quality
  - Enable Safe Public Access
  - Restore a Functional Ecosystem
2. GREEN THE NEIGHBORHOODS
  - Create a Continuous River Greenway
  - Connect Neighborhoods to the River
  - Extend Open Space, Recreation, and Water Quality Features into Neighborhoods
  - Enhance River Identity
  - Incorporate Public Art Along the River
3. CAPTURE COMMUNITY OPPORTUNITIES
  - Make the River the Focus of Activity
  - Foster Civic Pride
  - Engage Residents in the Community Planning Process and Consensus Building
  - Provide Opportunities for Educational and Public Facilities
  - Celebrate the Cultural Heritage of the River
4. CREATE VALUE
  - Improve the Quality of Life
  - Increase Employment, Housing, and Retail Space Opportunities
  - Create Environmentally-Sensitive Urban Design and Land Use Opportunities and Guidelines
  - Focus Attention on Underused Areas and Disadvantaged Communities



Imagine, a linked and accessible confluence of the Arroyo Seco and the Los Angeles River.

### 3. CAPTURE COMMUNITY OPPORTUNITIES

In the past, communities have turned their back on the River, viewing it as an unsafe, unpleasant place that primarily functions to transport storm flows. Constrained by rail lines and freeways, the River has not been visually or physically accessible to most City residents. This Plan's vision calls for transforming the River into a safe, accessible, healthy, green, and celebrated place, with the goal of making the River the focus of activity and helping to foster civic pride. For example, even industrial areas can be converted to new "eco-industrial" parks that improve the living and working environment by providing open space opportunities, access to the River, and cleaner, higher-paying jobs for City residents.

The goals for capturing community opportunities also include engaging residents in the community planning process. Neighborhood-by-neighborhood consensus building can help identify the best areas for reorienting development and open space while encouraging neighborhood enhancement, empowerment, and reinvestment. Complementary goals include providing opportunities for educational and public facilities, and celebrating the cultural heritage of the River.

### 4. CREATE VALUE

Creating value is the fourth organizing principle of the Plan. Core elements of this principle include the goal of improving the quality of life by increasing the attractiveness of the City and enhancing public health for both residents and visitors as a place to live, work, and visit. A related goal is the creation of environmentally-sensitive, sustainable urban design and land use guidelines, such as those encouraging "green buildings," rooftop gardens, and the use of water quality BMPs in street and park design.

Value is also created by providing opportunities for new employment, housing, and retail space, such as galleries, service shops, restaurants, and cafés. An additional and significant goal includes focusing attention on underused areas and disadvantaged communities to ensure equitable opportunities for housing, parks, employment, and transportation connections in areas that are especially lacking in these amenities. Revitalization of the River can introduce a broad range of benefits that will enhance Los Angeles' livability and result in greater economic prosperity for everyone.

The goals mentioned above and specific recommendations that will help realize the Plan's vision are discussed in more detail in Chapters 4 through 7.



Imagine, a new riverfront Community Park in Canoga Park along the Los Angeles River.

## VALUES SHAPING THE PLAN

The four organizing principles and their supporting goals reflect important values that have been expressed by residents throughout the River Revitalization Master Plan process. Residents have articulated a strong desire for a “greener” Los Angeles that may be experienced by everyone. Key values shared in the public participation process are environmental responsibility, social and geographic equity, community engagement and support, designs that are based on sustainable economics, and a system-wide perspective toward the Los Angeles River watershed.

### Environmental Responsibility

Environmental principles and values—such as restoring natural systems and remaking human environments—have exerted a strong influence on the Plan. The Los Angeles River is both a real and symbolic source of life for the City. As such, restoring the River’s environmental functions and making it the spine of a stronger green space system are integral to this planning effort.

Requirements for habitat, recreation, economic development, and water quality should be developed within the context of the needs expressed by individual neighborhoods.

### Social and Geographic Equity

Opportunities should be funded in a socially and geographically-equitable manner. Environmental justice—ensuring that areas with lower-income populations receive opportunities consistent with higher-income areas—has been a major consideration in developing this Plan and should continue to be a priority in its implementation.

### Community Engagement

The revitalization of the River cannot occur without widespread community support. This Plan was developed by and for the residents of the City, and requires their support to be effectively implemented. The Plan has received widespread support at numerous public workshops conducted throughout the River Corridor over 18 months. Now, as implementation begins, residents will be asked to participate in the community

planning process to identify the types of land, recreation, and open space uses that are appropriate for and compatible with each neighborhood.

The City is fortunate to have strong support for River revitalization at every level of government. As initial projects progress, it is essential that this support be sustained. City staff and resources will continue to be leveraged to ensure a lasting commitment to River revitalization.

### Sustainable Economics

Efforts are underway throughout the watershed to provide funding for water-quality compliance activities, ecosystem restoration, community reinvestment, transportation improvements, and recreational amenities. Lessons from other cities that have revitalized their riverfronts show that changes of the type recommended here require private investment and initiative. Design standards and guidelines for development within the proposed River Improvement Overlay (RIO) will be established to support the Plan, so that reinvestment may occur in an environmentally-sensitive and sustainable manner.

### A System-Wide Perspective

Efforts to improve environmental conditions within the watersheds of the City and County of Los Angeles have spanned decades. While this Plan complements and reinforces these efforts, it is important to realize that it alone cannot solve all of the watershed’s problems. Since the context for the Plan is the River Corridor within the City of Los Angeles, it is beyond the scope of the Plan to provide detailed solutions to watershed-wide issues, such as water quality, habitat values, densification, industrial land use, and affordable housing. The Plan addresses these issues within the context of the River Corridor, and makes recommendations when linkages exist to other planning efforts, such as those for water quality, habitat corridors, and flow reduction. The proposed 3-tiered River management structure can enable longer-term collaboration that would foster a broader dialogue and more regional benefits.



top - Major General Ronald L. Johnson, with Councilmember Tom LaBonge meets with top City, County, and Corps of Engineers dignitaries in support of the Corps’ ongoing involvement in restoring the Los Angeles River.” (First Council District, September 2005)

middle - Mayor Antonio Villaraigosa and Councilmember Ed Reyes call for public participation in the Los Angeles River Revitalization Master Plan during a press conference at the Cornfield, the site of the Los Angeles Historic State Park (First Council District, September 2005)

bottom - Senator Barbara Boxer, joined by City and State dignitaries, announces a bill to secure nearly \$80 million for the Los Angeles River revitalization during a press conference at Taylor Yard, the site of the Rio de Los Angeles State Park. (2006)



Imagine, a boatable secondary Los Angeles River channel.

# A RIVER, TRANSFORMED: THE BENEFITS OF REINVESTMENT

## PRECEDENTS FROM OTHER CITIES

Many cities across the country have reinvested in their rivers, reaping benefits that go well beyond economic returns. The San Antonio Riverwalk, in Texas, is perhaps the earliest and most well-known, but many other cities, large and small—among them, San Jose, California; Houston, Texas; Chattanooga and Memphis, Tennessee; and Washington, DC—have transformed their rivers into assets for their communities. These projects have invigorated tourism, created a better quality of life for residents, and helped produce vibrant economies.

Some communities, such as Chicago, Milwaukee, and Portland, not only have invested in their rivers, but in a larger “green agenda” featuring a more substantial street tree canopy, enhanced public open space that cleans storm runoff, and “green street” connections that link neighborhoods to green space and riverfronts throughout the city. These communities have emerged as extremely desirable places to live and work, with the amount of “green” factoring prominently in where people choose to live or locate businesses.

Los Angeles can build on the precedents established by these other cities. The vision set forth in this Plan, when coupled with ongoing efforts such as the County’s 1996 Los Angeles River Master Plan, the greater Los Angeles Integrated Regional Water Management Plan, and the City’s Million Trees Initiative, can propel the City’s own “green agenda” and make Los Angeles a better place in which to live.

## MULTIPLE BENEFITS AT MANY LEVELS

The benefits that result from other cities’ major river investments accrue on several levels. These include the following:

- For **residents**, more parks and “greener” riverfronts with restored ecological functions and “green street” connections that get people safely from home to school to the park and to the river’s edge;
- For **neighborhoods**, both along the River and outside its area of influence, a greater sense of community identity and pride, recreational and economic opportunities, including more parks and open space, and potentially more stable neighborhoods as residents make comparable investments in their own properties and businesses;
- For the **City as a whole**, ways to comply with environmental regulatory requirements for water quality in the River and its tributaries, thus avoiding potentially-costly fines, while providing needed additional jobs and housing, increased attractiveness to visitors, increased tax revenues, and ways to move around in the City that do not involve a car;
- At the **federal level**, in light of the River’s past flood history, benefits would be achieved through flood-damage reduction, ecosystem restoration, and environmental improvements through wildlife habitat and water quality features.



Residential Properties front the San Antonio Riverwalk (2005)



Millennium Park along Lake Michigan in Chicago (2005)



Pedestrian plaza and kayaking area just beyond the bridge along the Chattanooga Riverwalk (2005)



# ISSUES AFFECTING THE PLAN 3

LOS ANGELES RIVER REVITALIZATION MASTER PLAN

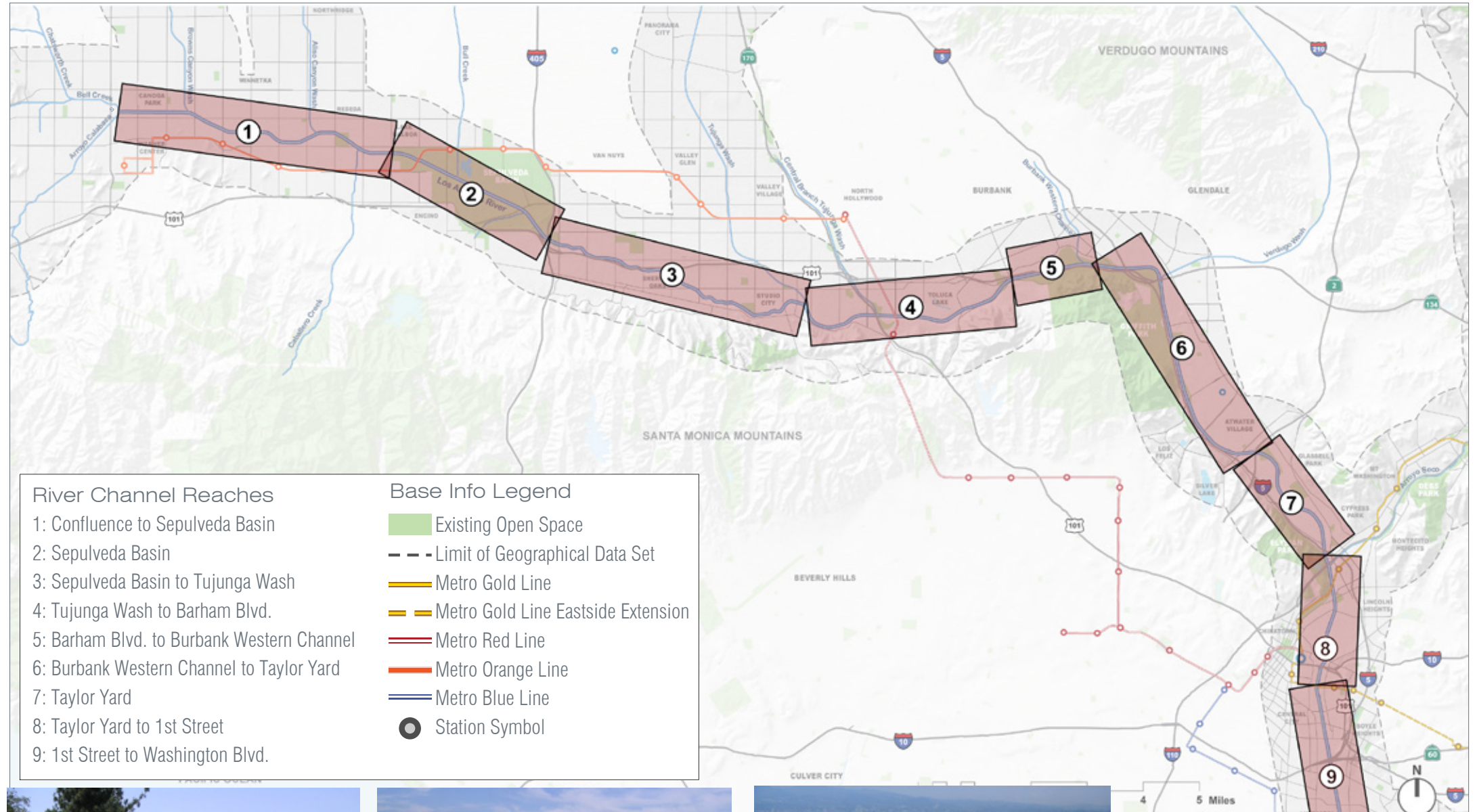


The Los Angeles River, through Studio City near Laurel Canyon Boulevard (2006)

The 32-mile planning area represents a variety of conditions that have shaped the Plan. This chapter discusses variations in channel geometry, flood capacity, hydraulic conditions, water quality, habitat value, non-motorized transportation and recreation potential that have influenced recommendations.

The larger planning context is also important, both from the perspective of the watershed and how to accomplish goals while considering a wide variety of complex issues.

### River Channel Reaches



Reach 1: Arroyo Calabasas-Bell Creek Confluence to Sepulveda Basin (2006)



Reach 2: Sepulveda Basin (2006)



Reach 3: Sepulveda Basin to confluence with Tujunga Wash (2006)



Reach 4: Tujunga Wash to Barham Boulevard (2006)



Reach 5: Barham Boulevard to Burbank Western Channel (2006)

## PHYSICAL CHARACTERISTICS OF THE RIVER CHANNEL

The Plan includes proposed enhancements to the existing River channel, from its origination at the confluence of Bell Creek and Arroyo Calabasas, to Washington Boulevard just south of downtown Los Angeles. There are nine distinct channel reaches that vary in geometry and width:

### Reach 1: Arroyo Calabasas–Bell Creek Confluence to Sepulveda Basin

Through this largely-residential segment, the River is a concrete-lined trapezoidal channel, approximately 20 feet deep and with a bottom width of 45 to 115 feet wide. High water velocities in this reach can range from 20 to 29 feet per second, during storm events.

### Reach 2: Sepulveda Basin

Sepulveda Basin is one of two segments where the River has a soft bottom and displays a more naturalized character. The River is approximately 60 feet wide and is surrounded by park area and open space. Water flows in this reach can reach approximately 15 feet per second, during storm events.

### Reach 3: Sepulveda Dam to Confluence with Tujunga Wash

Downstream of Sepulveda Dam, the River is constrained within a rectangular channel ranging in width from 45 to 60 feet. Surrounding land uses are primarily residential. Valley Heart Drive parallels the River continuously beside most of this reach. Peak water flow velocities in this reach range from 20 to 25 feet per second, during storm events.

### Reach 4: Tujunga Wash to Barham Boulevard

The River is a concrete-lined rectangular channel, approximately 15 feet deep and with a bottom width that ranges from 60 to 160 feet. The channel right-of-way is very limited, extending only two to four feet outward from the top of the bank. Peak flow velocities range from 30 to 34 feet per second, during storm events; because of these speeds, this is one of the most challenging sections from the standpoint of restoration.

### Reach 5: Barham Boulevard to Burbank Western Channel

From Barham Boulevard to the confluence of the Los Angeles River with the Burbank Western Channel, the River is a concrete-lined rectangular channel approximately 130 feet wide. Flow velocities in this reach also exceed 30 feet per second, during storm events. Riverside Drive parallels the River on the south side, while the north bank borders the City of Burbank.

### Reach 6: Burbank Western Channel to Taylor Yard

From the Burbank Western Channel to Taylor Yard, the River again takes on a naturalized character, with a soft bottom. The River is very wide through this area, with flow velocities ranging from 15 to 19 feet per second, during storm events. Willows and other riparian plant species have become well established.

### Reach 7: Taylor Yard

At Taylor Yard, the River has a soft bottom, and water flows are in the range of 15 to 20 feet per second, during storm events, making this area a prime candidate for significant ecosystem restoration.

### Reach 8: Taylor Yard to 1st Street

The area from Taylor Yard downstream to 1st Street, with flow velocities greater than 30 feet per second, during storm events, is one of the most complex sections from a hydraulic standpoint. The channel geometry changes several times within a very short segment, and this affects the range of improvements that can be accomplished.

### Reach 9: 1st Street to Washington Boulevard (Downtown)

In this final reach, the River is constrained by rail lines and freeways. The River channel is at its widest, ranging between 100 and 160 feet, has flow velocities of greater than 30 feet per second during storm events, and continues as a concrete-lined trapezoid. It is highly visible from many historic bridges and overpasses, however, and this makes it a prime location for enhancement.



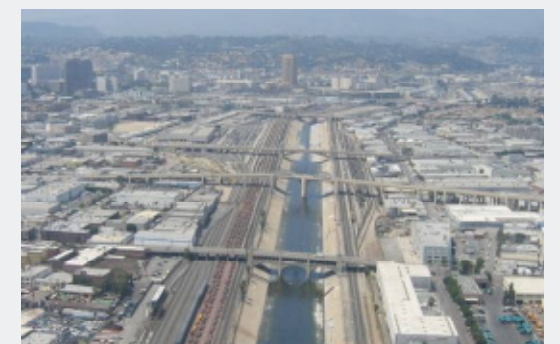
Reach 6: Burbank Western Channel to Taylor Yard (2006)



Reach 7: Taylor Yard (2006)

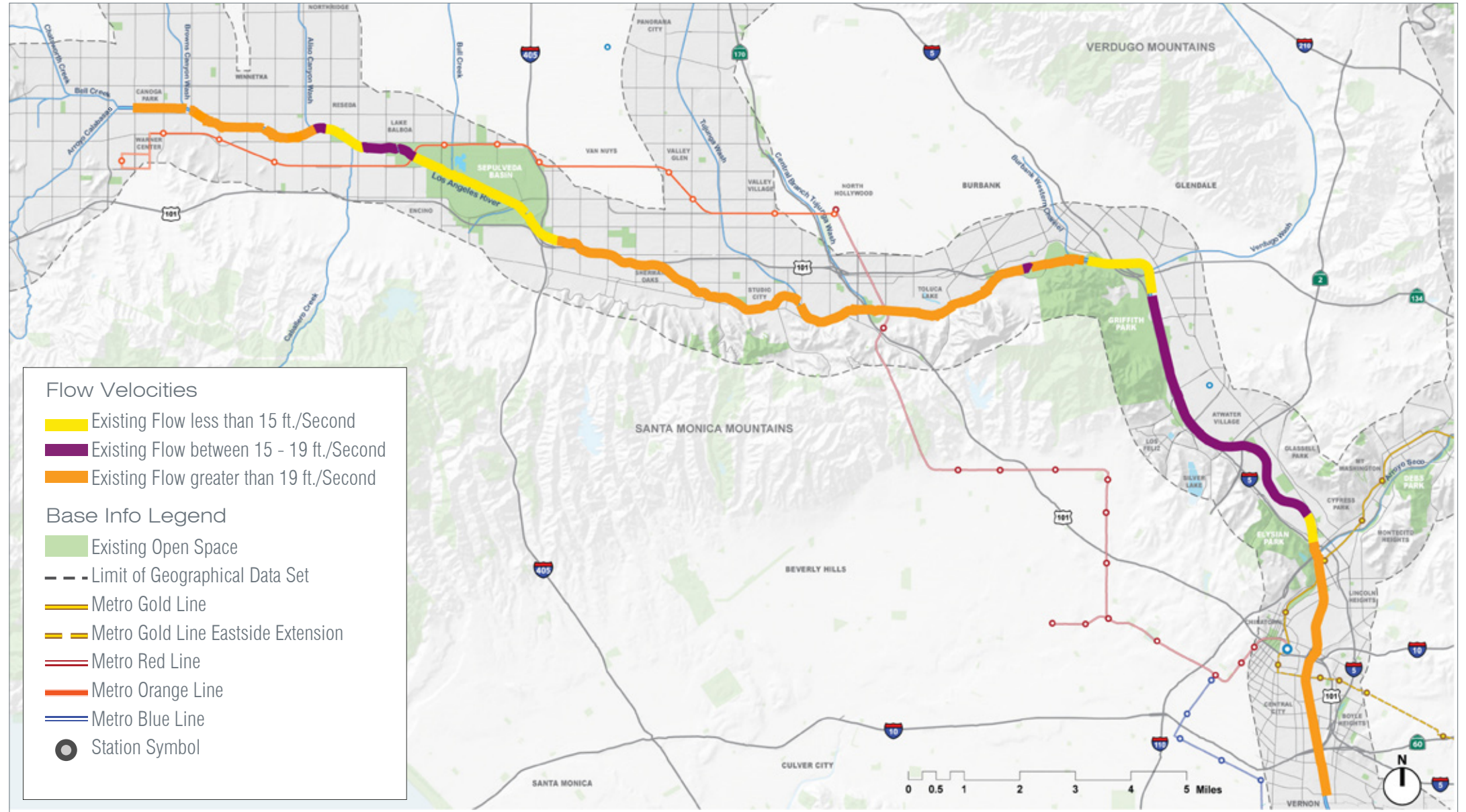


Reach 8: Taylor Yard to 1st Street (2006)



Reach 9: 1st Street to Washington Boulevard (Downtown) (2006)

Flow Velocities within the Channel



Flow velocities in the channel range from 20 to 30 feet per second in many locations, limiting the ability to reestablish a riparian corridor within the River.

## HYDRAULIC CONSIDERATIONS: CHANNEL CAPACITY AND VELOCITY

### THE NEED TO MAINTAIN EXISTING FLOOD CAPACITY

Two hydraulic considerations influence modifications to the River. The first and most important is the *need to maintain existing flood capacity*.

Adding vegetation to create habitat, or providing terraced access to the water, are actions that would reduce flood capacity unless the current channel is widened or deepened to compensate, or unless new underground box culverts are installed to transport flood flows outside of the existing River channel.

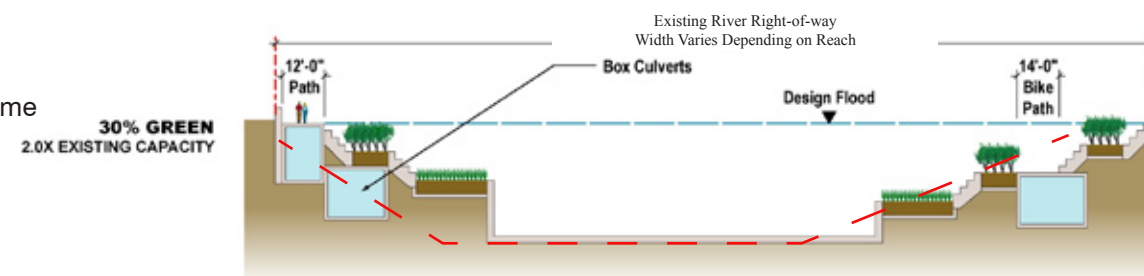
Different types of vegetation have different impacts on flood capacity. Grasses, for example, have less impact than woody plants, such as willows, because flood flows are more likely to pass over them, rather than be impeded by them. Less additional capacity is therefore necessary when introducing grasses as opposed to woody plants.

Finally, the amount of vegetation introduced also has an effect on flood capacity. As shown below, restoring the River to a “30-percent green” standard requires less additional capacity than if a “70-percent green” standard were applied. Because of the increased channel capacity that is required due to a higher percentage of vegetation within the channel, additional strategies will likely be necessary in combination with channel widening whenever possible. These can include off-channel storage for volume reduction, implementation of on-site stormwater control measures, and expansion of capacity through deepening the channel and through construction of additional underground box culverts.

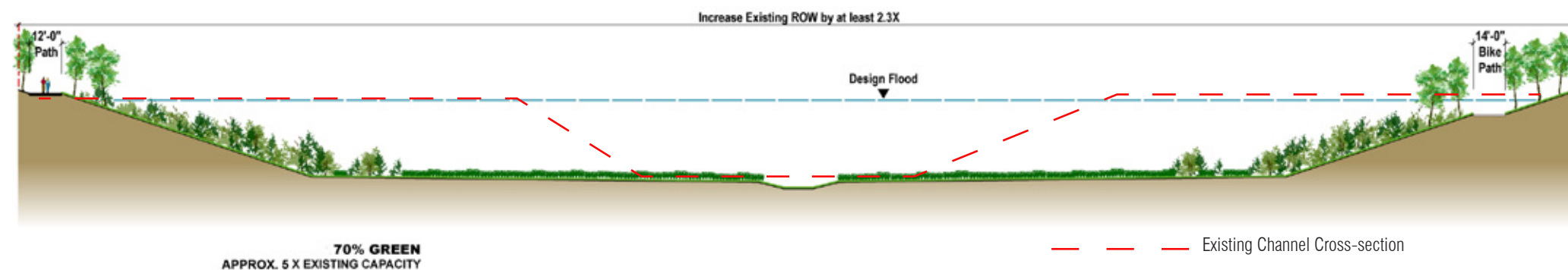
### THE NEED TO SLOW FLOW VELOCITIES

A second consideration is the relative speed or velocity of water flows in the River. Within the River’s soft-bottomed sections, flow velocities allow the existing vegetation to grow. At higher speeds, vegetation is difficult to sustain because flood flows wash it out. The issue is not simply one of maintenance -- having to replace plantings on a routine basis -- it also concerns the structural integrity of the channel itself, since flood flows can also wash out portions of the concrete or other armoring systems.

As shown in the graphic on the facing page, most of the concrete-lined segments of the River have flow velocities that can range from 20 to 30 feet per second. Slowing these high velocities to less than 12 feet per second will be critical to reestablishing a riparian corridor within the River, and to providing additional greenway improvements. This would require one or a combination of the following measures: 1) storage of flood flows in basins outside the main channel; 2) provision of additional underground box culverts to transport flows; or 3) land acquisition allowing channel widening. Opportunities exist throughout the River corridor to implement these, or a combination of measures to help naturalize the River and encourage stable habitat establishment.



Expansion in channel capacity needed to make the River’s surface area 30-percent green.



Expansion in channel capacity needed to make the River’s surface area 70-percent green. The approximately “5 times the current width” illustration is meant to illustrate the width that could be necessary if only the channel were widened

Storm Drain Outfalls



# WATER QUALITY

## CURRENT WATER QUALITY IN THE LOS ANGELES RIVER

With the increasing urbanization of Los Angeles, the quality of the water in the River has declined significantly. Most of this is due to untreated stormwater runoff that enters the River through one of approximately 2,200 storm drain outlets. Agricultural, industrial, and residential development over the past century, coupled with the use of pesticides, fertilizers, and household chemicals, have resulted in degradation of both surface and groundwater within the region.

As mandated by Section 303(d) of the Federal Clean Water Act, water bodies are deemed “impaired” if they exceed state and federal water quality standards, and limits are placed on the amount of pollutants -- designated as Total Maximum Daily Loads, or TMDL’s -- that can be present without impairing designated beneficial uses. These ratings indicate whether a water body can be used for fishing, swimming, or other non-contact activities such as boating. The Los Angeles River maintains its original “Rec 1” beneficial use designation, which means that TMDL’s have been set to someday allow the River to return to a prior state as a fishable and swimmable River.

Just how bad is the River’s water quality? TMDL’s have been established for trash, nutrients, and most recently, for metals; a bacteria TMDL is presently under development. The figures below illustrate the impaired reaches of the River with respect to each type of pollutant. While some reaches are slightly more affected than others, the overall magnitude of pollutants exceeding TMDL standards within each reach is so significant that geographic distinctions are not particularly meaningful. Water quality improvements for the entire River remain a critical priority for the Plan.

## CURRENT MITIGATION MEASURES

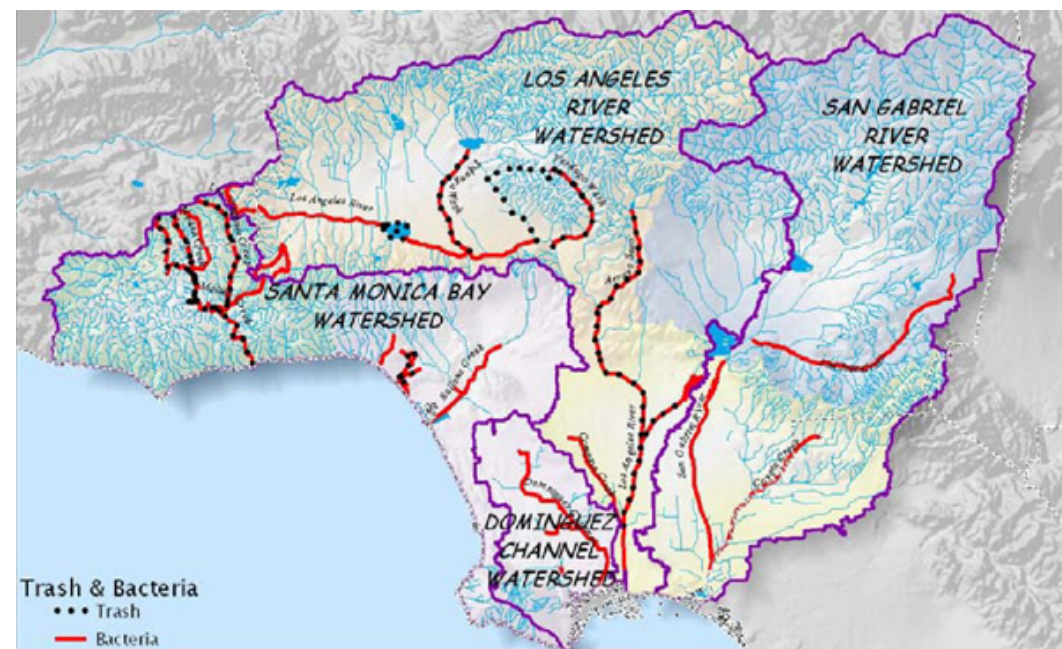
Trash, debris, and other floatables in the River result from careless disposal of packaging, street litter, and plant debris. In addition to negative aesthetic impacts, trash may harbor bacteria and inhibit dissolved oxygen levels, affecting aquatic life. A TMDL for trash was the first to be imposed, in 2002, and requires a 10 percent reduction per year in the discharge of trash into the River, with the first 20 percent reduction accomplished by September 2006 and a 100 percent reduction required by 2012.

## WHAT ARE “TOTAL MAXIMUM DAILY LOADS” AND WHEN ARE THEY IMPOSED?

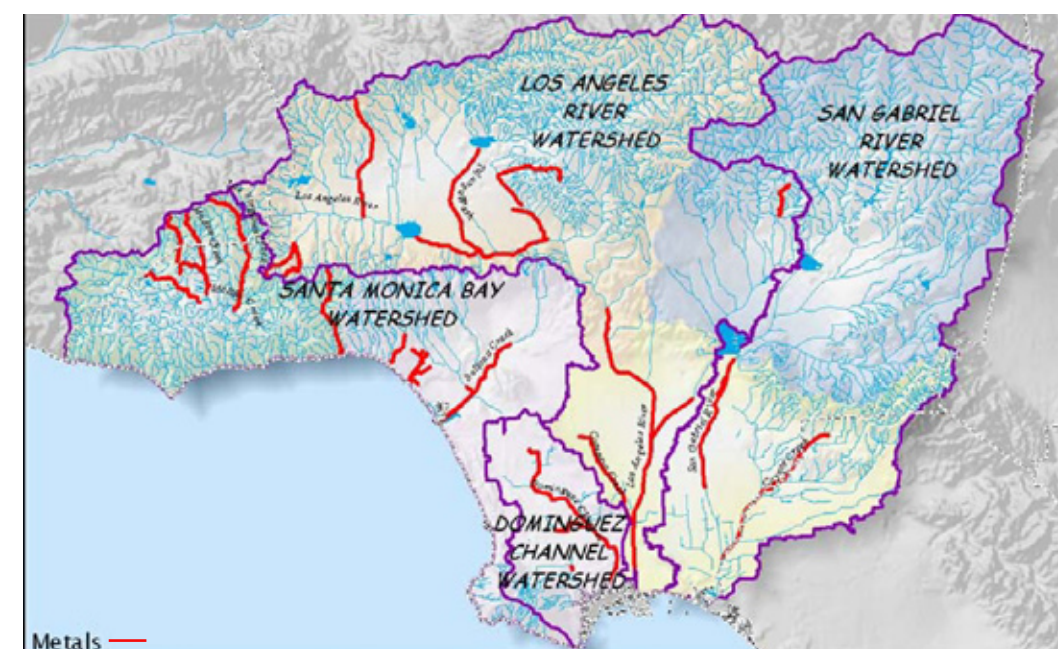
According to Section 303(d) of the Federal Clean Water Act, water bodies are deemed “impaired” if they exceed state and federal water quality standards. Limits are placed on the amount of pollutants -- designated as Total Maximum Daily Loads, or TMDL’s -- that can be present without impairing designated beneficial uses.

## WHAT ARE “BEST MANAGEMENT PRACTICES” AND WHERE ARE THEY USED?

“Best management practices” are methods of managing and treating urban stormwater runoff. Recommendations are provided for reducing the volume of storm runoff by encouraging storm flows to soak into the soil and to facilitate removal of pollutants using landscape-based and mechanical-filtration techniques.



Impaired reaches: Trash and bacteria  
(Integrated Regional Water Management Plan, 2006)



Impaired reaches: Metals  
(Integrated Regional Water Management Plan, 2006)



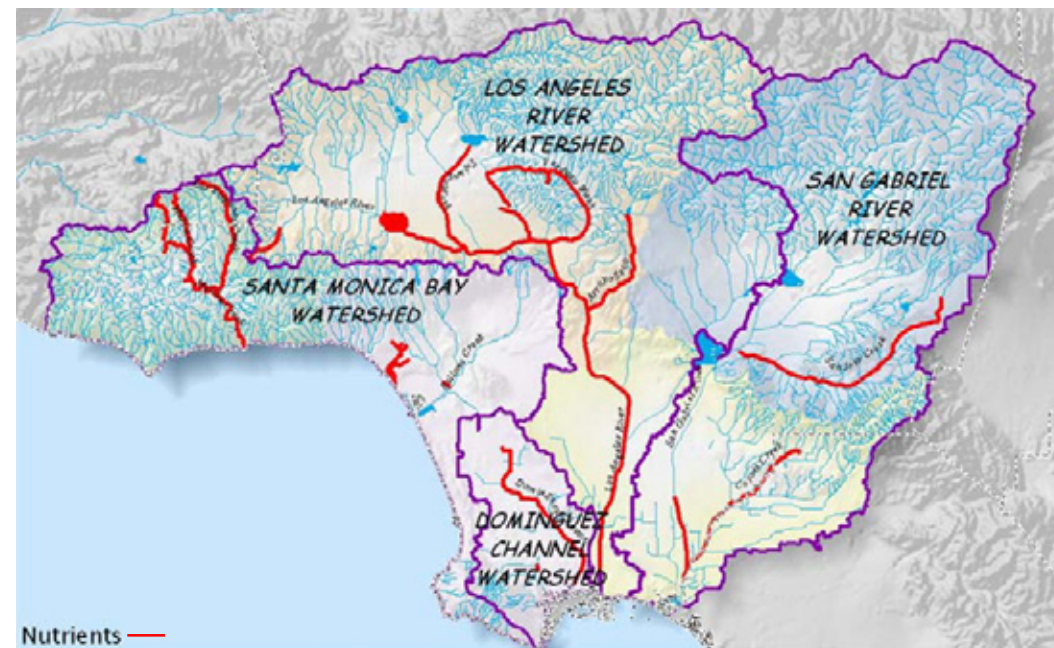
Bioinfiltration trenches treat runoff from adjacent roadways, and provide landscape amenities. (City of Portland, 2006)

To meet these goals, the City of Los Angeles has evaluated the effectiveness of different trash control Best Management Practices (BMPs), and has analyzed the geographic distribution of trash generation in order to target areas with the highest trash generation, where they will achieve the most immediate and long-term impacts. In addition to these actions, the City is planning to retrofit approximately 10,000 catch basins, located within high-trash-generation areas, with devices that will prevent trash from entering the storm drain system.

Bacteria and viruses are often found in urban runoff and have been linked to the presence of trash. Sources include sanitary sewer leaks and spills, malfunctioning septic systems, and, most commonly, fecal matter from humans, pets, and wildlife. Results of monitoring undertaken in 2003-2004 for three organisms at monitoring stations along the River, indicate that established standards were exceeded in between 44 and 100-percent of the test results. In many cases, these exceeded standards were as much as 25 times the allowable limit set by the Department of Health Services. (IRWMP, 2006) A bacteria TMDL has not yet been imposed, but is under development.



Water quality treatment wetlands can also offer opportunities for compatible active and passive recreation, as shown at Augustus F. Hawkins Park. (2006)



Impaired reaches: Nutrients  
(Integrated Regional Water Management Project, 2006)

Nutrients, particularly nitrogen and phosphorus, are commonly found in lawn fertilizers, human and animal waste, and effluent from wastewater treatment facilities. In large concentrations, nutrients can cause algae and reduce dissolved oxygen, which are harmful to aquatic life and the River's environment.

The principal source of nitrogen compounds in the Los Angeles River is from water treatment plants. Discharges from the Donald C. Tillman Water Reclamation Plant (WRP), the Los Angeles-Glendale WRP, and the Burbank WRP are contributors to the Los Angeles River. During dry weather periods, these treatment plants contribute 84 percent of the total dry weather nitrogen load. Urban runoff, stormwater, and groundwater discharge may also contribute to the nitrogen loadings. These sources correlate with the River reaches that are designated as impaired, all of which are downstream of the Tillman plant; the reach upstream of the plant is not considered impaired. On March 23, 2004, the Nitrogen TMDL became effective, and numeric targets for nitrogen compounds in the Los Angeles River were established.



A landscaped meadow in Marsh Park, by the Mountains and Recreation Conservation Authority, treats stormwater runoff while providing a community open space amenity. (2006)

Metals of concern include lead, zinc, cadmium, copper, chromium and nickel. They can be toxic to all forms of wildlife if allowed to build up to significant levels. Organic compounds, including pesticides, can have similar effects. A metals TMDL was imposed in 2005. Because of the number and types of metals identified, impairment tends to vary by reach. In general, the reaches upstream of Sepulveda Basin and between Verdugo Wash and Taylor Yard are not listed as impaired, while other reaches have been listed for one or more metals.

A variety of actions have been proposed through previous planning efforts to address water quality concerns. The City's Bureau of Sanitation and the Los Angeles Department of Water and Power have developed the Integrated Resources Plan (IRP) which addresses long-term water resource issues including wastewater collection and treatment, as well as potential water recycling and reuse. The County of Los Angeles, through its Flood Control District and Watershed Management Division, has developed the Integrated Regional Water Management Plan (IRWMP), which includes specific IRWMP's for the Upper and Lower Los Angeles River.

Among the recommendations that have been made are:

- Reduce and reuse stormwater runoff from developed areas. Both the Integrated Resources Plan (IRP) and the IRWMP call for a reduction and reuse of stormwater runoff volumes through onsite measures, such as reducing impervious surfaces, or using BMPs to capture, treat, and infiltrate storm runoff. Performance targets vary, from a goal of reducing runoff by 50 percent (IRP) to reducing and reusing up to 90 percent of storm runoff from developed areas (IRWMP).
- Capture and treat remaining stormwater runoff from developed areas. While the first set of actions focuses on reducing the amount of runoff, the second acknowledges that remaining runoff should be treated and, where feasible, allowed to infiltrate. Emphasis is placed on using multi-purpose solutions that support functional habitat, provide for recreation, and support groundwater recharge where appropriate.
- Adopt a systematic approach to enhancing water quality throughout the watershed. This would entail treating runoff on-site on both public and private sites, and using public properties including parks, schools, and civic sites as treatment facilities. An example of such a systematic approach that has been partially implemented in the Sun Valley Watershed Management Plan.



A level spreader is incorporated into a hiking trail, allowing for diffusion of storm runoff while providing recreational benefits in Horseshoe Park, Aurora, Colorado. (2002)



A biofiltration swale encourages infiltration and reduces run-off on site of a campus in Thousand Oaks. (2006)



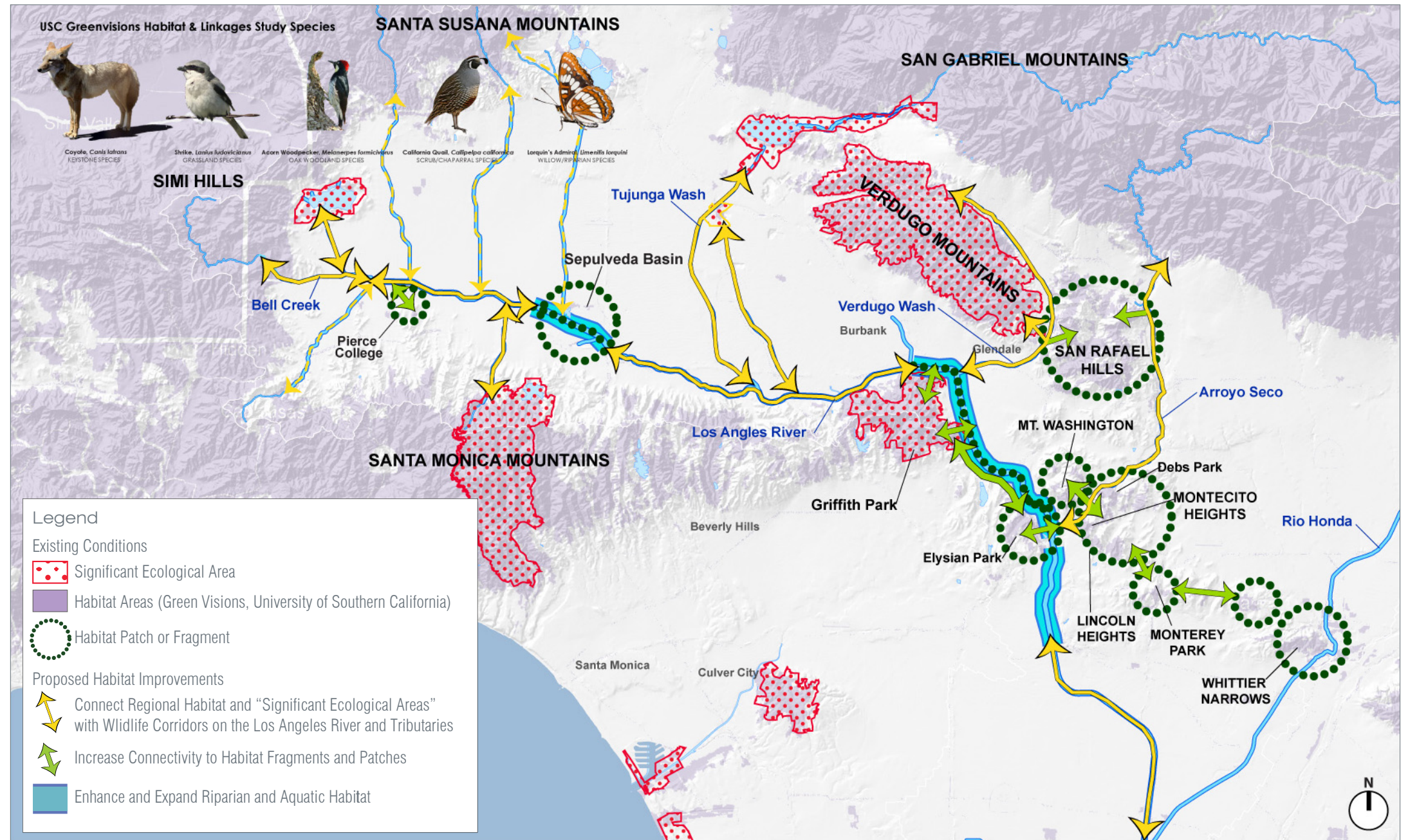
Bimini Slough Ecological Park by North East Trees, in East Hollywood, daylights an existing storm drain and provides on-site stormwater management. (North East Trees, 2006)



Porous pavement parking surfaces at the Río de Los Angeles State Park, provide detention and water quality treatment. (2006)

Bird species of special concern found along the River Corridor include: American White Pelican, Double Crested Cormorant, Osprey, Northern Harrier, Sharp-shinned Hawk, Coopers Hawk, Merlin, California Gull, Vaux's Swift, Loggerhead Shrike, Yellow Warbler, Yellow-breasted Chat, and Tri-colored Blackbird. (California Department of Fish and Game, Habitat Conservation Planning Branch, 2007, web site). More rarely seen species include: Least Bittern, White-faced Ibis, Golden Eagle, Prairie Falcon, Long-billed Curlew, Burrowing Owl, Vermillion Flycatcher, California Horned Lark, and Summer Tanager. (San Fernando Valley Audubon Society, pers. comm., 2007).

### Habitat Connectivity



Areas where improved habitat connectivity are desirable.

## ECOLOGICAL FUNCTION AND HABITAT VALUE

### EXTENT AND QUALITY OF EXISTING RIPARIAN HABITAT

According to the California Coastal Conservancy, close to 100 percent of the original wetlands and 90 to 95 percent of in-stream riparian habitat within the Los Angeles River watershed have been lost, a consequence of urbanization and the channelization of rivers and creeks. Within the 32-mile Los Angeles River project area, the only areas that presently support riparian habitat are Sepulveda Basin and the Glendale Narrows. These areas are increasingly stressed by exotic species, hydrologic modifications, dumping of trash and debris, and encroaching development.

The 225-acre Sepulveda Basin Wildlife Preserve is the only officially designated wildlife area along the River, within the City. The soft-bottom portions of the River here and at the Glendale Narrows provide valuable resting and feeding zones for migratory birds, yet these areas are seasonally inundated with high flows, which preclude nesting. Key indicator species found within these areas include a variety of mammals and birds, such as coyote, shrike, acorn woodpeckers, and California quail. As mentioned previously, urban runoff and sewage treatment plants provide a majority of the water flowing in the channel; and this nutrient rich water supports unique riparian ecologies along the River.

Riparian habitat is also often impaired by degraded water quality (for example, increases in water temperature, the quantities of sediment and nutrients, and pesticides and heavy metals), and elimination or reduction of adjacent “buffer habitat.” Because functional riparian habitat and wetlands can improve water quality by removing or sequestering many contaminants, the loss of this habitat has implications for the ecological functioning of the River, as well as for wildlife uses.

Aquatic habitat has also been severely degraded as the River has evolved from a natural system to a paved flood-conveyance channel. Species affected have included the red-legged frog and, most visibly, the steelhead trout. Viewed as one of the top five sport fish in the U.S. because of its tenacity, the last known steelhead in the Los Angeles River was reportedly caught in 1940.

The steelhead trout is a hardy fish with powerful survival mechanisms; the main barrier to the steelhead trout's “recolonization” of the River is not temperature or water quality -- though these remain factors -- but an unimpeded path from the ocean to the headwaters, along with areas in which to rest and spawn. Such an unimpeded pathway would require removing enough of the concrete within the channel to allow a fish to journey from the ocean to the headwaters, via a system of pools, riffles, runs, and gravel. Significant riparian cover or other mechanisms would provide shade, and a natural flow regime of high and low-flows would be necessary.

### A FRAGMENTED SYSTEM THAT COULD BE RECONNECTED

The figure to the left summarizes results of several studies that have considered aquatic, riparian, and upland habitat. The Los Angeles River watershed includes three regionally significant ecological areas (SEA's) that are disconnected from the River corridor, these are: the Santa Monica Mountains, Verdugo Mountains, and Griffith Park. As noted in the Los Angeles County's 1996 Los Angeles River Master Plan, migratory and resident birds move along the major flyways between the River, the SEA's and other sites with surface water such as Hansen Dam, and the Sepulveda Basin. Open freshwater reservoirs such as the Los Angeles, Pacoima, Encino, and the Tujunga also offer feeding and nesting grounds. According to research by the University of Southern California's GreenVisions program (2006), the channel and rights-of-way currently function as movement corridors for mammals.

What is evident from this diagram is the lack of connectivity in habitat types. In addition to the largely disconnected riparian habitat along the River corridor, upland and riparian connections to mountain areas are largely absent, except along Verdugo Wash. Restoring and reconnecting both riparian and upland habitat, and recreating wetland areas where feasible, would contribute a great deal to the restoration of a functional ecosystem along the River. Some potential wildlife connections at critical conservation areas such as from the Arroyo Seco to Elysian Park and Griffith Park to Verdugo Wash would also enhance connectivity.

### WHAT ARE “INDICATOR SPECIES” AND WHY ARE THEY IMPORTANT?

Biological indicator species are unique environmental indicators because they offer a signal of the biological condition in a watershed. Using bio-indicators as an early warning of pollution or degradation in an ecosystem can help sustain critical resources.



Steelhead Trout historically lived and spawned in the Los Angeles River. (Trout Unlimited, 2006)

Example resources for implementing these kinds of connectivity projects include: “Critter Crossings - Linking Habitats and Reducing Roadkill”, and “Keeping It Simple - Easy Ways to Help Wildlife Along Roads”.

### NEED FOR ADDITIONAL PARKLAND AND PLAYING FIELDS

In 2004, the Trust for Public Land (TPL) surveyed the 50 largest cities in the U.S., including Los Angeles, focusing on equity and access to parks. Compared to other cities with similar density and population, Los Angeles offers less in the way of recreational amenities, according to TPL:

#### TOTAL LAND AREA DEVOTED TO PARK LAND:

- Los Angeles ranks 11th of 12 major cities with 7.8% of total land area in parks, compared to San Diego with 22%, San Francisco with 19.3%, and New York with 19.1%.

#### TOTAL ACRES OF PARK LAND PER 1,000 PEOPLE:

- Los Angeles has 6.1 acres of park land per 1,000 people compared to San Diego with 36.1 acres, San Francisco with 7.8 acres, and New York with 4.6 acres.

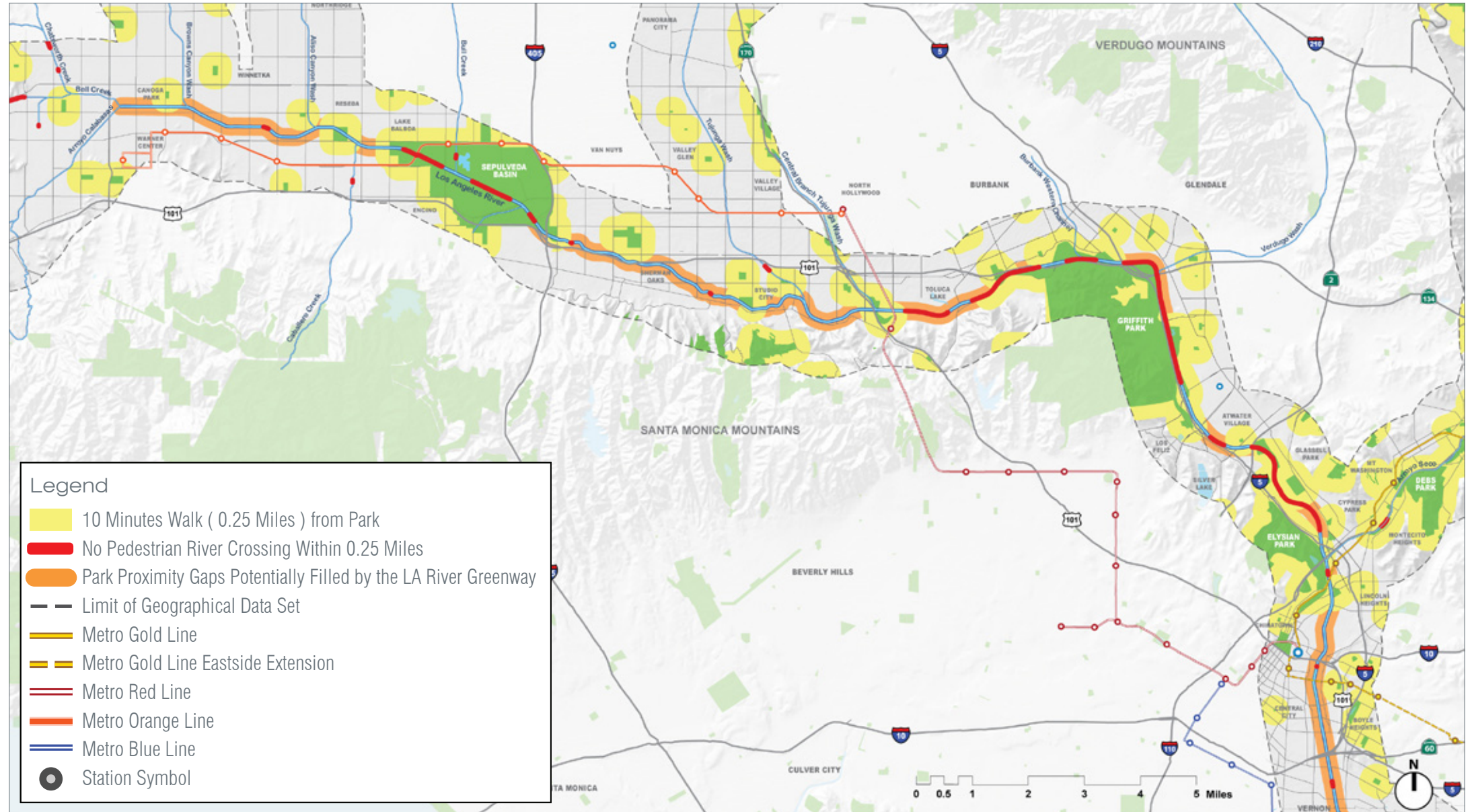
#### RECREATIONAL FACILITIES PER 10,000 PEOPLE:

- Los Angeles ranks 10th in the number of ball fields, 10th in the number of soccer fields and 46th in the number of playgrounds per 10,000 people. For example, Minneapolis has 1.5 soccer fields per 10,000 people, Los Angeles has 0.1 soccer fields per 10,000 people.

#### TOTAL PARK-RELATED SPENDING PER RESIDENT:

- Los Angeles spends \$38 annually per resident compared to San Francisco at \$276.

Recreation, Non-Motorized Transportation, and Public Access to the River



Open Space Access and Cross-River Connectivity Along the Los Angeles River

## RECREATION AND PUBLIC ACCESS TO THE RIVER

### THE NEED FOR MORE WALKABLE ACCESS TO OPEN SPACE

The City of Los Angeles includes just over 30,000 acres of parks and open space, with some 15,660 acres administered by the City's Department of Recreation and Parks. At a current population of almost 4 million people, this translates into an average of 6.1 acres of parkland for every 1,000 residents -- placing Los Angeles within the mid to upper range of comparable large, high-density cities across the country. However, two issues of greater concern are geographic equity in the distribution of facilities -- where parks and open space are located relative to the population of users -- and walkable access (for example "Can children get there safely without getting in a car?").

The figure on the preceding page illustrates the areas that are served by a park within one-quarter mile of home, a standard that has been popularized by the Trust for Public Land and other proponents of "healthy communities" that emphasize connections between walkable parks and public health. Significant areas within the San Fernando Valley, Elysian Valley, and Downtown do not meet this emerging standard. Because many of these areas also have significant concentrations of low-income residents, this raises an equity issue as well.

### ATTEMPTS TO BRIDGE THE GAP

Many environmental organizations and neighborhoods within the City have rallied around the River and have spearheaded its transformation with pilot programs to create pocket parks, bike paths, and linear River parks. These parks raise awareness of the River and provide neighborhood-scale amenities. Some of the parks are excellent examples of multi-benefit open spaces.

For example, Marsh Park, in Elysian Valley, serves as both a "street-end" pocket park and functions to detain stormwater in rain events. At present, North East Trees is applying systematic approaches to stormwater management, which includes water quality treatment within City parkways, and new pilot projects within street-end parks. The 1996 County Master Plan encourages development of vacant land adjacent to the River into park and recreational facilities, "especially in high-need areas."

The County Master Plan also recommends establishment of a regional greenway and a "continuous trail" that would connect the San Gabriel Mountains north of Hansen Dam along the Los Angeles River to the Pacific Ocean at Long Beach. Of the 32 miles within the Revitalization Master Plan's study area, presently 4.86 miles of bikeway have been completed. The West Valley Greenway project, currently under development, will result in an additional 1.75 miles. The City of Glendale is planning a riverwalk on the north side of the River near the Verdugo Wash (Phase I), and a pedestrian bridge across the River, connecting to Ferraro Fields (Phase II).

The Los Angeles Department of Transportation (LADOT) staff has been designing and constructing two mile segments of the bike path as funding is available. The Phase I project, in four segments, is nearly complete. Phase II will be completed with the reconstruction of the Riverside Drive Bridge by the Department of Public Works and will terminate on the east side of the River. Phase III is planned as on-street bike lanes to connect Downtown via Spring Street. DOT is also working with the Metropolitan Transit Authority (Metro) on a bicycle/pedestrian bridge to connect the Phase I segment with the planned Taylor yard bikeways. Some River maintenance right-of-ways in Studio City have been developed into linear River parks, in accordance with the County's Los Angeles River Master Plan guidelines. Many of these greenways will have to be modified to allow future grade-separated crossings.

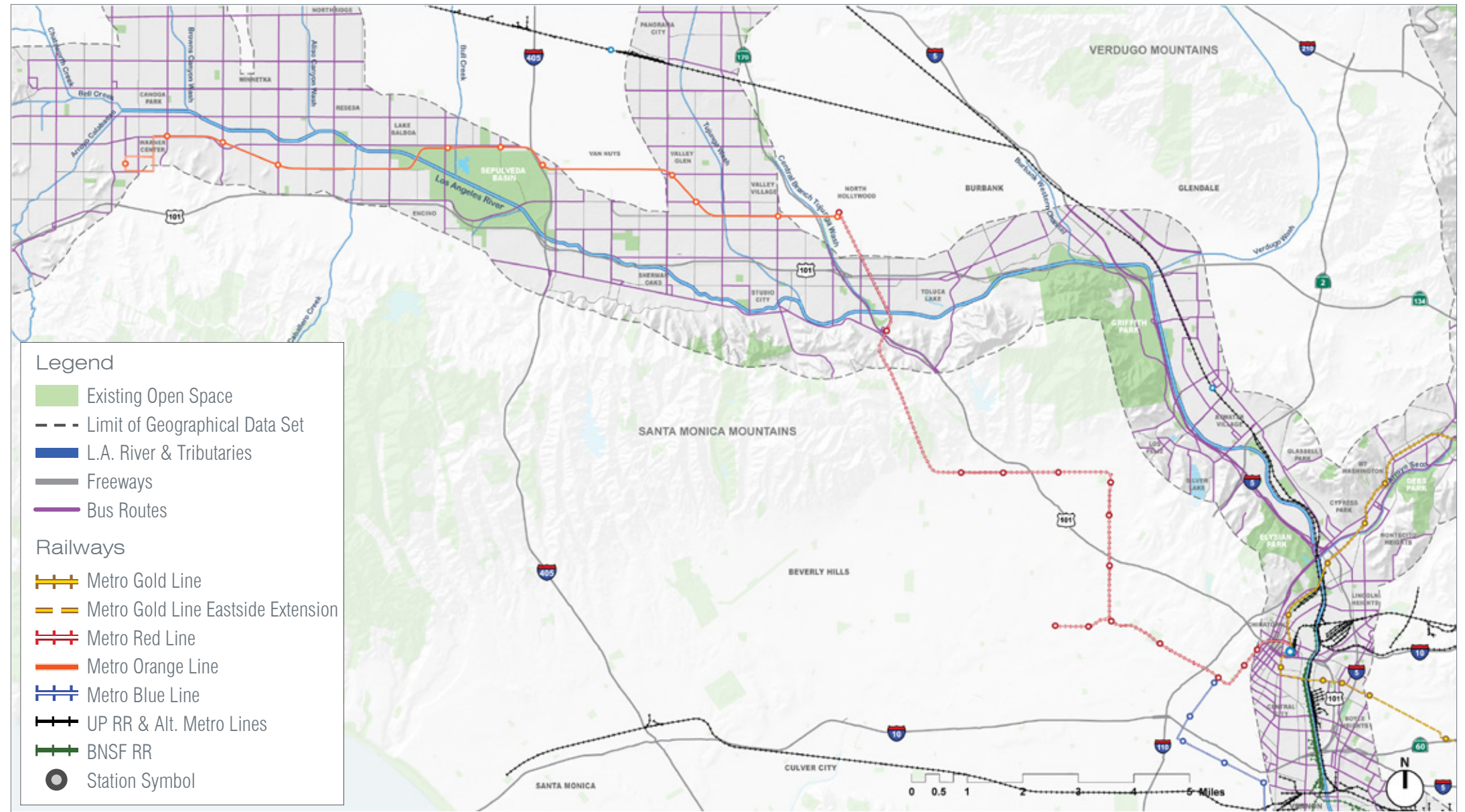
Eighty bridges cross the River in the City of Los Angeles; the City owns 60 of these bridges. The remaining 20 are either freeway or railroad crossings. Ten have bike access on the south/west side of the River, and another seven are currently funded for bikeway under-crossing improvements. According to the Los Angeles River and Bridge Access Report (2003), 11 of the bridges require minor improvements, four require at-grade crossings, 44 require underpasses, two require overcrossings, and nine require detour routing. Twenty-five bridges have recently been finished or are undergoing necessary bridge improvements. Only a handful of these bridges are incorporating under-crossings or other bikeway improvements. This Plan offers significant support for safe, grade-separated crossings at many of these critical intersections.

### NEED TO PROVIDE SAFE PUBLIC ACCESS TO THE RIVER

Public access to the River is limited for safety and liability reasons. When the River was channelized, it was also fenced off to prevent people from falling in or from being swept away during floods. This fencing has been breached in multiple locations and, in several areas, the River has become a destination for homeless encampments or gang activity. Encouraging more beneficial use, while ensuring public health and safety through a variety of measures, could reduce these undesirable activities and make the River an amenity for all residents of Los Angeles.

All cross-connections between the community and the River should ensure safe accommodations of multiple modes, including motorized traffic, rail transit, pedestrians, and equestrians per acceptable design standards.

Transportation



## TRANSPORTATION CONSIDERATIONS

### RAIL ALIGNMENTS FOLLOW THE RIVER

As noted in Chapter One, the River has served—and continues to serve—as one of Los Angeles' principal rail transportation corridors. As described below, heavy rail lines providing long distance freight and passenger service tend to parallel the River from the City of Glendale through Downtown. Rail has been a significant physical barrier in the past, preventing public access to the River or, at the very least, making it a challenge. While consolidation of these tracks could allow more space for River enhancements and economic development, these rail lines play an essential role in the local economy and in the movement of goods, services, and passengers through the region. River redevelopment plans need to integrate the demand for continued rail service with the goal of minimizing barriers to River access.

Light rail lines providing passenger service, by contrast, can be viewed as both a barrier and an opportunity. As with heavy rail, the barriers are physical, making access to the River a challenge. On the other hand, the proximity of light rail stops to the River can be an opportunity to begin to develop a connected, multi-modal system that can bring people closer to the River.

Existing rail alignments are summarized on the map on the facing page.



With the 1st Street bridge in the foreground, rail lines, storage tracks, and maintenance facilities constrain the River throughout Downtown. (2006)

### HEAVY FREIGHT AND PASSENGER RAIL LINES WILL REQUIRE MORE CAPACITY

Interviews with rail operators indicate that both freight and passenger rail operations are facing a crippling level of congestion within just a few years time. Given the projected growth in freight and passenger railroad traffic, the region faces a serious shortfall in mainline track and intermodal railyard capacity. According to the Southern California Association of Governments' (SCAG) forecasts, both Burlington Northern Santa Fe Railway (BNSF) and Union Pacific (UP)—the two major carriers that pass through Los Angeles—will have track capacity shortfalls on certain line segments by 2010, barring major improvements.

**Union Pacific (UP)** operates both freight and passenger lines. Union Pacific trains carry extensive varieties of import-export traffic through its Intermodal Container Transfer Facility (ICTF) near the Los Angeles-Long Beach harbors and in Colton. In 2006, UP operated 110 trains per day in its “LA Service Unit,” which includes routes between Los Angeles and Arizona, between Los Angeles and Nevada, and between Los Angeles and Northern California. The 110 trains include Amtrak and Metrolink commuter service over UP lines.

Union Pacific primarily operates on the east side of the River through downtown Los Angeles. At Mission Road Yard, the lines split in three directions: northward, eastward towards the Inland Empire, and westward across the River to Union Station.

Fiber optic and Pacific Pipeline facilities are also located within the rail right-of-way. Proposals that would involve altering the locations of the UP rail lines would need to address both utilities.

**Burlington Northern Santa Fe Railway** also operates both freight and passenger rail lines. BNSF trains carry intermodal containers, trailers, vehicles, coal, agriculture and forest products, machinery, metal, minerals, chemicals, and other freight traffic. In 2000, BNSF's east-west corridor operated 57 freight trains and 46 passenger trains per day.

Former rail right-of-ways offer unique opportunities for adaptive reuse as trails, such as those described by the “Rails to Trails” Conservancy.



Metro and heavy rail lines along the western bank of the River through Downtown. (2006)

BNSF enters Los Angeles County from the north, stopping at Union Station, en route to destinations at the Port of Los Angeles and the Port of Long Beach. In the downtown Los Angeles vicinity, tracks from the south and east merge near Washington Boulevard and run along the west side of the River to Union Station. From 1st Street to 8th Street BNSF maintains four storage tracks on the west side of the River; these tracks might be moved if BNSF could be assured that their capacity would not be affected. North of 1st Street, BNSF sold their lines to Amtrak and Metrolink, but retain rights.

**Metrolink (Southern California Regional Rail Authority)**, a regional commuter operation, operates six commuter rail lines originating from Union Station. Recent statistics indicate that Metrolink operates 54 stations, 141 weekday trains, and serves over 41,000 weekday riders. In the downtown Los Angeles area south of the I-10, Metrolink operates on the east side of the River. Between the I-10 and the I-110, Metrolink operates on both sides of the River, on UP and BNSF rail lines. The central Metrolink maintenance facility is located on the east side of the River at Taylor Yard.

**Amtrak** operates the following long-distance trains, which pass through Los Angeles Union Station: the Coast Starlight (daily Los Angeles to Oakland to Seattle), Southwest Chief (daily Los Angeles to Albuquerque to Chicago), and Sunset Limited (three times a week Los Angeles to New Orleans to Orlando). Amtrak also partners with the State of California to operate the Pacific Surfliner, which runs from San Diego to Los Angeles to Santa Barbara to San Luis Obispo with several daily round trips. In fiscal year 2006, Amtrak served 1,414,164 passengers in Los Angeles.”

Two related projects have also been considered in development of this Plan. The Los Angeles Union Station Run-Through Track project was proposed by the Caltrans Division of Rail Plans to improve the efficiency of Union Station. The proposed project would extend two of the tracks southward from Union Station and provide a new connection into the BNSF main line on the west side of the River.

The five County Transportation Commissions in the SCAG region (Los Angeles, Orange, Riverside, San Bernardino, and Ventura) are working with SCAG and the four Caltrans districts (7, 8, 11, and 12) on a 2-year project to develop an implementation plan for the Southern California goods movement system. The mission of this Multi-County Goods Movement Action Plan effort, which is administratively led by Los Angeles County Metropolitan Transit Authority (Metro), is to partner with the private sector in the development of a strategy and implementation plan for an improved regional goods movement system.

## HIGH SPEED AND LIGHT RAIL LINES COULD BE OPPORTUNITIES TO CONNECT TO THE RIVER

While heavy rail poses the challenges noted previously, existing and proposed future light rail lines could be opportunities to connect a multi-modal system with the River.

Metro serves as the transportation planner and coordinator, designer, builder and operator for Los Angeles County. Light rail lines include the Metro Green, Blue, Red and Gold lines, with the last three traveling through or near the project area. The Metro Red Line subway meets the Blue Line in Los Angeles and provides service through Downtown, the Mid-Wilshire area, Hollywood and the San Fernando Valley, where it meets the Metro Orange Line transitway. The Metro Gold Line connects with the Red Line at Union Station, and runs northeast to Pasadena. Heading north from Union Station, the Gold line crosses the Los Angeles River east of Dodger Stadium. Metro operates 62 stations and over 73 miles of track. During the heavy peak travel times, there are as many as 250 trains operating throughout the system. (See transportation map page 3-14). The Orange Line Bus Rapid Transit travels through the project area and adds a key non-motorized transportation link with its fully developed bicycle and pedestrian paths that intersect the Los Angeles River in the Sepulveda Basin.

Construction has recently begun on the \$898 million Metro Gold Line Eastside Extension project. The forecasted opening is in late 2009. Metro Gold Line Eastside Extension will be six miles long, with eight new stations, and will directly connect to the existing Metro Gold Line to Pasadena. Twin tunnels under Boyle Heights will be 1.8 miles long and the system will be powered electrically with overhead catenaries wires. Transit stops are planned at Little Tokyo/Arts District, Pico/Aliso, Mariachi Plaza, Soto, Indiana, Maravilla, East LA Civic Center, and Atlantic Station. These stops could be connected to the River, and to a proposed River Greenway system that could provide access to parks, open space, and other destinations.

The proposed California High-Speed Rail system would travel from San Francisco, Oakland and Sacramento in the north to Los Angeles and San Diego in the south, and would connect California's major metropolitan areas. The proposed corridor alignment has been loosely identified in the Los Angeles area, and it traverses a portion of the project area. The preferred alignment is along both sides of the Los Angeles River: one proposed track crosses the River from Mission Yard towards Union Station and continues south while the other passes through Union Station and splits to cross the

River south of US-101 and south of 1st Street. Should the rail system be implemented as studied, it offers the potential to bring visitors from outside the region to the City. A revitalized River could provide an important regional recreational destination, as well as an amenity that could draw more visitors to the City.

## NON-MOTORIZED TRANSPORTATION

Pedestrian and bicyclists look to the Los Angeles River as a key non-motorized transportation link. In the lower 20 miles of the River outside the City of Los Angeles, where the path is fully developed and separated from at-grade roadway crossings, non-motorized travelers regularly utilize the River as a pleasant respite from travelling on the roadways to their destinations. Corridors such as the Los Angeles River and its tributaries, the Beach Bike Path, and the San Fernando Road Metro rail right-of-way are spines of the non-motorized network being developed by the Department of Transportation for bicyclists and pedestrians in Los Angeles.

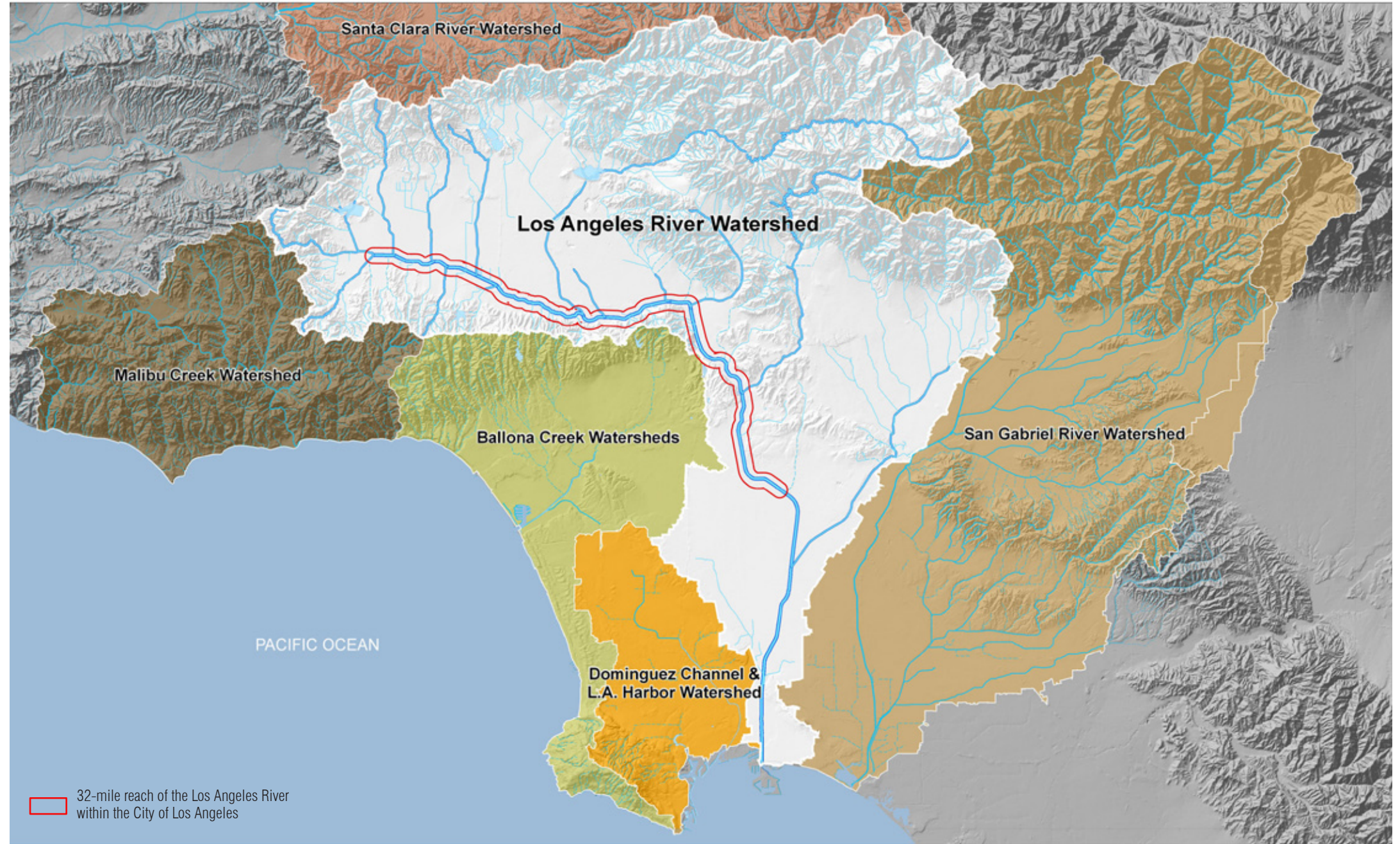


Metrolink rail line through the River Glen Opportunity area. (2006)



Metrolink rail line and San Fernando Road through the River Glen Opportunity area. (2006)

Los Angeles River and Surrounding Watershed



## THE LARGER WATERSHED CONTEXT

### IMPLICATIONS OF GROWTH AND DEVELOPMENT WITHIN THE WATERSHED

Los Angeles has changed significantly in the past century. Between 1900 and 2000, its population grew from 50,000 persons to 3.6 million, and the City evolved from a patchwork of agricultural lands in the San Fernando Valley and industrial areas near Downtown, to a nearly fully built-out metropolis with an estimated 60 to 70 percent impervious, or hard-surface area.

This rapid urbanization is not just within the City. Perhaps the most significant changes have involved development within the *watershed* that contains the City and portions of Los Angeles County. A watershed may be defined as the area within which natural drainage patterns convey surface water flows to a specific low point destination -- in this case, the Los Angeles River. The graphic on the opposite page illustrates the Los Angeles River's watershed which encompasses 871 square miles -- an area roughly twice the size of the state of Delaware. Within this land area, the population currently approaches 5 million people, and in the lower Los Angeles watershed, only 13 percent of the land area remains as open space.

The growth within the Los Angeles River watershed has had dramatic implications for the way the River functions from an ecological, flood control, and stormwater management perspective. During the pre-channelization period of more limited development, the River's generous natural floodplain served as an effective flood-control mechanism and buffer for watershed-scale development. Those who built within the floodplain did so at the risk of loss of life and property, as the floods of 1914 and 1938 illustrated.

When the City was less developed with less hard surface area, stormwater could more readily infiltrate and recharge groundwater where it fell -- meaning that the River had less work to do as a flood conveyance feature. Increasingly more development within the watershed, combined with channelization of the River flows, has meant that all of

the additional runoff is now directed and concentrated in the River, which, while an engineering feat, was not designed to handle the water volumes typical today.

The perspective taken by this Plan is that the River cannot -- and should not -- be expected to be the sole means for addressing flood damage reduction and water quality challenges in the larger watershed. While the River can make a significant contribution to address these issues, the Plan reinforces and relies upon other City and County watershed planning initiatives in emphasizing that challenges generated within the watershed should be, to the maximum degree possible, addressed within the watershed.

### A WATERSHED PLANNING PERSPECTIVE

Many watershed-scale planning efforts have been undertaken or are currently underway. This Plan seeks to strengthen and provide practical ways to implement core recommendations set out in these plans.

The core recommendations contained within most of these plans include an emphasis on the following:

- Adopt a watershed-based approach to flood damage reduction. Most plans call for implementation of a more integrated flood management system that makes reduction and treatment of urban runoff a primary goal.
- Adopt a systemic, watershed-wide approach to water quality treatment that emphasizes treatment "at the source", and incorporates permeable surfaces.
- Emphasize "multiple benefit" approaches that simultaneously incorporate flood storage, water quality treatment, habitat improvement, increasing native vegetation biodiversity, and recreation.
- Leverage public properties, including parks, golf courses, schools, and other civic spaces, to address both flood storage and water quality treatment.
- Focus on restoring ecological function watershed-wide, emphasizing connectivity of systems and natural processes.

### WHAT IS A WATERSHED?

A watershed may be defined as the area within which natural drainage patterns convey surface water flows to a specific low-point destination. The Los Angeles River's watershed encompasses 871 square miles -- an area roughly twice the size of the state of Delaware.

### WATERSHED COMMITMENT STATEMENT: A WATERSHED IS WATER, SHARED

Because the Los Angeles River is situated within an almost-900 square mile, highly urbanized watershed, the success of any and all changes to the River channel--including greening, habitat enhancements, water quality treatments, and restoration activities--are impacted by both upstream and downstream activity in the watershed.

Because of its function in draining the watershed, the Los Angeles River bears a disproportionate share of the responsibility for addressing region-wide problems, such as flood control, trash and debris collection, and absorption of the effects of contaminated urban runoff.

Given these challenges, and the intent of the Plan to revitalize the Los Angeles River, the Plan will be implemented in coordination with existing and future watershed plans--to successfully improve and protect water quality and restore aquatic resources throughout the Los Angeles River Watershed.

## THE LARGER POLICY CONTEXT

The City of Los Angeles is facing a number of large policy issues that will, to some extent, provide conditions for the Plan. These issues extend far beyond the planning area and will require concerted and broad-based attention from the City. They are mentioned here because this Plan will take them into account as part of revitalization efforts.

### HOMELESSNESS

Many homeless encampments exist along the River, which can make visitors using bicycle paths and pedestrian trails uncomfortable. These encampments are removed periodically through police action, including a due process that involves posting signs for a week in advance prior to evicting homeless encampments within the channel right-of-way. The opportunity exists for this revitalization Plan to address homelessness by creating more jobs within River-adjacent neighborhoods and increasing the amount of affordable housing provided throughout the region. With increased lighting and public usage of River facilities, more recreational use is also expected to occur, providing “eyes on the greenway” to further discourage illicit behavior.

### GENTRIFICATION

The process of gentrification occurs when low-cost, aging neighborhoods are renovated and subsequently experience gains in property values that can result in displacement of the neighborhood’s original residents. Urban core redevelopment and gentrification are already taking place throughout Los Angeles, and are evident in neighborhoods such as Downtown, Los Feliz, Silver Lake, Eagle Rock, and Highland Park. The opportunity exists to limit the displacement impacts as neighborhoods begin to change, by using community feedback, engagement, and interaction during each phase of the revitalization process.

Gentrification is a controversial process that disproportionately affects lower-income residents and their jobs. As new investments are made in a neighborhood, rents begin to rise on both residential and commercial properties. Over a period of time, renters,

whether individuals or businesses, either simply cannot pay the increased costs or decide not to pay higher rates for budget reasons. These people and jobs must then find new places to relocate that are within their budgets. For owners of residential or commercial property it may be possible to remain in place longer than for renters, but at some point people “cash in,” selling their properties to high-paying buyers who typically also renovate, enlarge, or otherwise invest at high levels in the property, further increasing the inflationary pressure on neighborhood rents and values. As a result of this process, people and communities become displaced and dispersed, affecting social, cultural, and family ties.

Many cities are working hard to find ways to address this set of problems. Some cities have adopted inclusionary housing ordinances that require new development to provide a minimum required percentage of “affordable” units according to prescribed goals. Others have set up agencies and other support systems (such as nonprofit housing trusts) to develop support programs that assist families and business in using all possible local, state, and national programs to support the financing of real estate purchases, capacity building within local affordable financing entities, gap financing for residents and businesses, and similar programs of support.

An emerging area of opportunity may be the development of ordinances that require some amount of the property value increase that occurs because of rezoning to be applied to support the inclusion of existing residents and businesses in redevelopment. In Los Angeles, a rezoning from industrial to residential or mixed use can create increases of 200-to-300-percent in land value. Some resort communities have developed ordinances that either require a recapture of these increased values for affordable housing, or have established tight controls on the pace of development. Such “growth management” ordinances have been controversial, but as the pace of gentrification increases, it may be possible to learn from these examples to develop zoning mechanisms that can be effective in Los Angeles.

## SINGLE-FAMILY RESIDENTIAL AREAS

Many reaches of the River pass through single-family residential areas. While this Plan encourages retaining and strengthening stable residential areas, it also acknowledges the opportunity of a long-term program to acquire private, single-family, residential properties for flood protection and River modifications.

## JOB IMPACTS

River revitalization may result in employment and wage impacts, especially in industrial areas that experience changes in the composition of employment. The opportunity exists to maintain industrial land uses and still increase the workforce and wage-rate by encouraging higher-technology industries.

## LAND USE CONVERSION

In industrial areas in the Elysian Valley and Downtown, the River is lined with truck parking, loading docks, material storage, trains, and industrial buildings. In some of these areas, these uses are not necessarily stable.

Redevelopment is happening; already, in areas where older industrial buildings have architectural character, they have been converted to residential units, live/work uses, artist lofts, and smaller businesses. In other areas where buildings are low quality or obsolete, smaller industrial sites have been aggregated and replaced with large warehouse or distribution buildings.

Both of these pressures tend to reduce existing jobs and increase property values. These conversions are an opportunity for neighborhoods to become more mixed in use, and therefore more related to River revitalization. At the same time, there are important concerns about protecting jobs, industries, and diversified economic activities within these areas. Revitalization of the River is likely to increase property values, thus increasing these conversion pressures.

The City is studying the loss of industrial activity due to economic pressures. These pressures are not addressed by existing Community Plans and zoning. This Plan recommends that Community Plans be updated to incorporate opportunities for River revitalization while addressing objectives for land use in these areas.



One of many former industrial buildings that have been converted into residential units in the Arts District to the west of the River (2006)



The existing industrial uses lining the eastern edge of the River near Downtown Los Angeles. (2006)

# ENGAGING THE COMMUNITY IN THE PLANNING PROCESS

## A TRANSPARENT PLANNING EFFORT THAT GALVANIZES PUBLIC SUPPORT

Community input and public support are vital to the success of any Los Angeles River revitalization effort. This Plan cannot be implemented successfully if surrounding communities do not embrace the various revitalization projects and understand that their participation in long-term stewardship is critical to making the River a safe and desirable place for everyone to experience. The planning effort has been organized to be transparent and to ensure that participants can see that their ideas have been incorporated into recommendations.

## A FRAMEWORK FOR INVOLVING STAKEHOLDERS AND THE PUBLIC

The planning process has engaged the community at multiple levels. The structure for involving stakeholders and community residents included the following:

- A City Department Task Force of 50 members, met monthly during the 18-month planning period.
- An Advisory Committee of 40 members with representatives from neighborhood and homeowners' associations, business groups, and other community leaders.
- A Stakeholder Committee of more than 50 representatives of advocacy organizations, such as environmental groups, organizations that focus on environmental justice, and River advocacy.
- A Peer Review Committee comprised of six leading experts in urban river revitalization and restoration.

- A total of 20 community meetings/public workshops, held in various neighborhoods along the River. All of the workshops included an initial presentation on the latest planning concepts and potential project features, followed by an interactive exercise in which the participants could write their opinions and ideas on maps, comment forms, and project boards. Participants worked through all of the planning stages, from visions and dreams, through neighborhood design elements, River channel modifications, and the identification and development of Opportunity Area proposals.
- Community events, such as neighborhood council meetings, an urban watershed forum, and meetings on a wide variety of River projects.
- A youth summit conference was held with over 500 participants.

Through September 2006, a total of 788 comments were received; the largest percentage of comments focusing on public enjoyment/recreation (23 percent) and environment and natural system restoration (18 percent).



top - City Engineer Gary Lee Moore presents at the First Youth Conference on the Los Angeles River on Oct. 12, 2006 at the Los Angeles Convention Center. (First Council District, October 2006)

bottom - Councilmember Garcetti shares his vision during a River community meeting. (2006)

## PROVIDING FEEDBACK: COMMUNICATING PROGRESS OF THE PLANNING EFFORT

Methods used to communicate the planning efforts to the public included:

- Press conferences and coverage in the local, national, and global media;
- Newsletters and other community notifications; and distributed on a regular basis
- An interactive web site available through the Ad Hoc Committee on the Los Angeles River's web site at [www.lariver.org](http://www.lariver.org).

The outreach effort has garnered an enthusiastic and wide range of responses, from the general to the specific. A consistent pattern of interest emerged regarding primary concern for how the surrounding communities and the general public would safely use the River for recreation and enjoyment. Most feedback concerned improving public access, creating more open/green space, dedicating space for athletics, beautifying the River with landscaping, restoring it to a more natural condition, preserving existing neighborhoods, finding socially-conscious solutions to homelessness, and keeping the River and its environment clean and safe. Other areas of interest focused on public art, community education, water quality, flood control, wildlife habitat, land use changes, and River management.

In addition to the public outreach conducted as part of this Plan, outreach was conducted by the Alianza de los Pueblos del Rio, a collaborative organization funded by the Packard Foundation to concentrate outreach efforts in the Latino community. The Alianza hosted three public workshops in August 2006, and involved organizations such as the Mujeres de la Tierra, the William C. Velasquez Institute, the Anahuak Youth Soccer Association, and the Center for Law in the Public Interest.



Residents draw their ideas for a revitalized River. (2006)



top - A June 2006 public meeting in the San Fernando Valley (2006)

middle - Residents consider precedents from other cities. (2006)

bottom - Councilmember Reyes, with students, launched the First Youth Conference on the Los Angeles River on Oct. 12, 2006 at the Los Angeles Convention Center. (First Council District, October 2006)

SOME OF THE IDEAS SHARED BY MEMBERS OF THE PUBLIC



Ken Yeang's "Concept of a possible H2Village Green, Mixed-use, Multigenerational Riverfront Development". (2006)



Study model "of LA Rivernation," a senior thesis of David Altchech. (2006)



Conceptual Rendering "of LA Rivernation" a senior thesis of David Altchech. (2006)



Michael Jantzen "Glass Bridge Concept". (2006)



Proposed Studio City Riverwalk, from the Great Outburst Of Design Initiatives (GOODI) (2005)



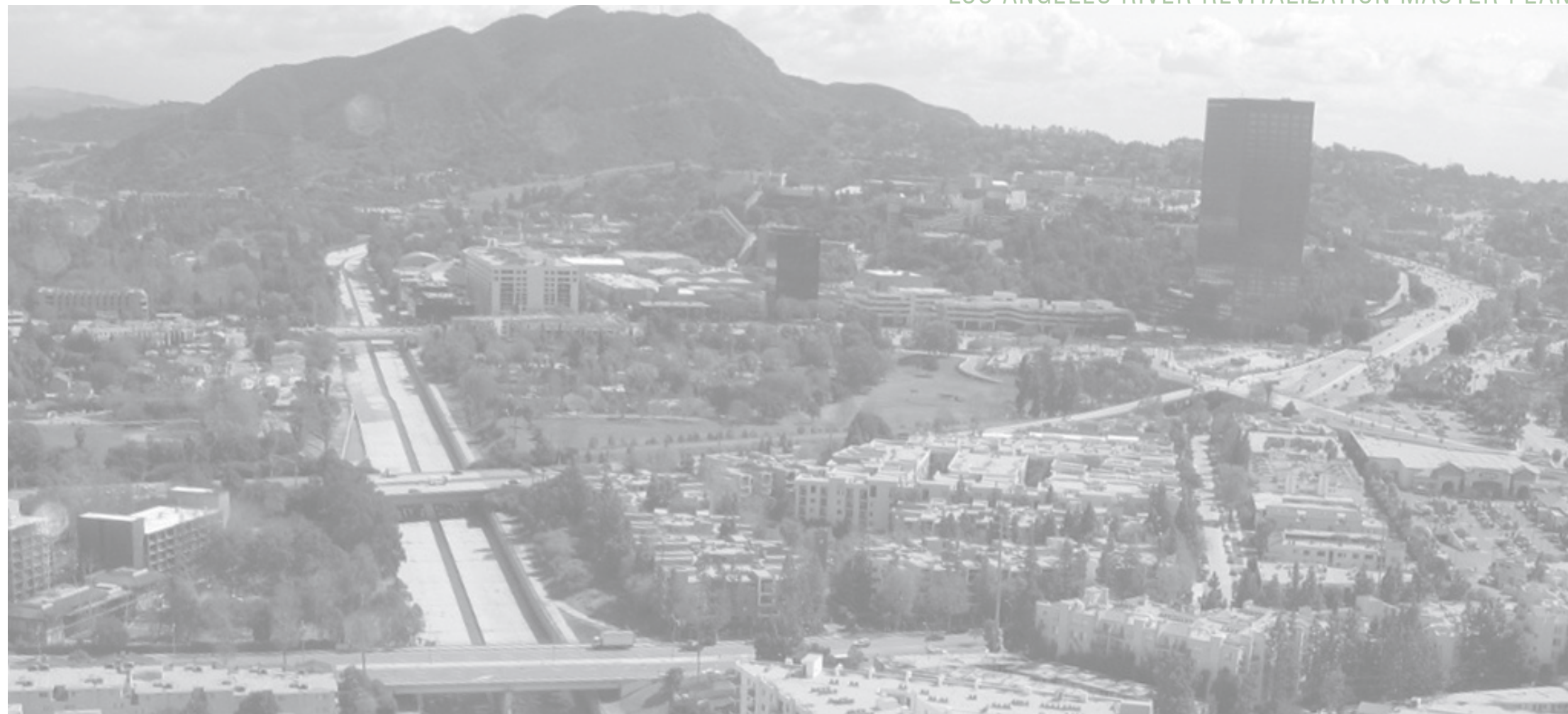
Conceptual plan of a car-free urban village along the Los Angeles River (Nicholas Frank, 2006)

Some additional projects suggested include:

- **Chinampa Park** (Joe Ibarra)
- **Heritage Parkscape** (The City Project/Alianza de los Pueblos del Río)
- **Spirit Walk** (Mark Smith)
- **The Los Angeles River Lakes Sanctuaries Recreational and Cultural Centers** (Marco-Antonio Luna Mancera)

# REVITALIZE THE RIVER 4

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



The Los Angeles River, near Weddington Park. (2006)

## REVITALIZING THE LOS ANGELES RIVER

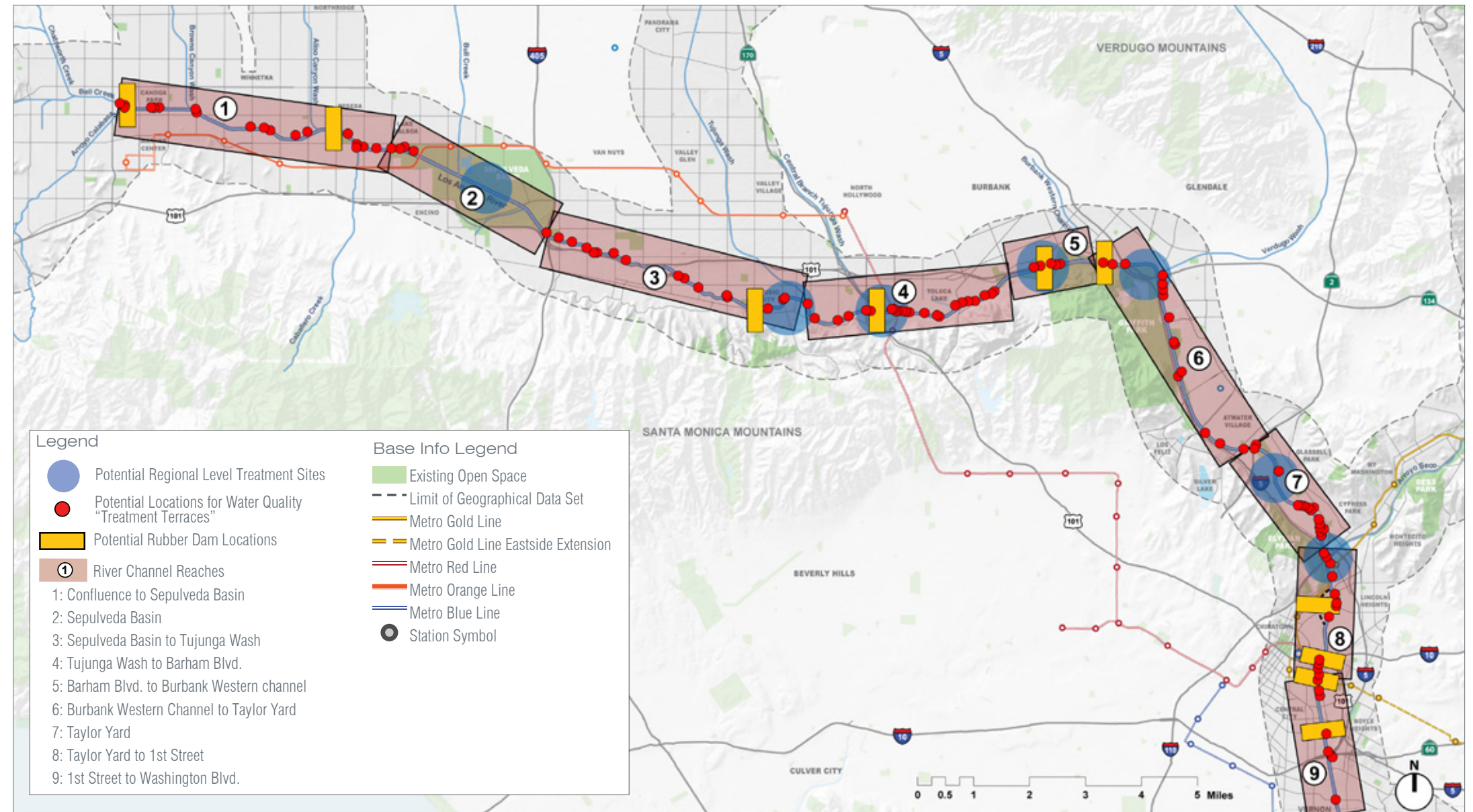
This chapter describes proposals for a revitalized Los Angeles River.

The long-term vision for the River involves restoring a continuous, functioning riparian ecosystem along the River corridor within the project area. This would involve restoring riparian vegetation to support birds and mammals, and ideally, developing fish ladders and riffle pools to allow for restoration of steelhead trout habitat, though this may take many years and coordination with downstream cities.

In the near-term, channel walls are modified to provide green landscaped terraces for wildlife habitat, water quality treatment, and public enjoyment. A system of pathways and overlooks provides public access.

Accomplishing long-term improvements will involve expanding channel capacities and reducing flow velocities. These will be achieved through a combination of flood storage outside the channel in retention basins and underground box culverts, and, over the long-term, potential repurchase of private property to allow for channel widening.

Potential In-channel River Improvements



# GOALS AND RECOMMENDATIONS SUMMARY

## Preconditions for Revitalization



Flooding along the Cherry Creek in Denver, Colorado (2006)

### Goal: Enhance Flood Storage

*Recommendation #4.1:*

Identify opportunities for peak flood storage outside the channel to reduce flow velocities in the River to sub-critical (less than 12 feet per second) levels. This will support the maintenance and reestablishment of vegetation.

*Recommendation #4.2:*

Identify opportunities for selective acquisition of additional rights-of-way to expand the River's floodplain.

## Near-Term Improvements



Water quality treatment wetlands at Augustus F. Hawkins Park. (2006)

### Goal: Enhance Water Quality

*Recommendation #4.3:*

Emphasize multiple-benefit landscape treatments and "green infrastructure" improvements.

*Recommendation #4.4:*

Implement water quality treatment at multiple scales to maximize efficiency.

*Recommendation #4.5:*

Create landscape-based water quality treatment at major confluences of the River to treat pollutants carried by tributaries.

*Recommendation #4.6:*

Develop "treatment terraces" within the channel to treat stormwater flows that "daylight" or surface in the River.

*Recommendation #4.7:*

Create landscape-based "green strips" at the top of Riverbanks and in adjacent linear parkland and streets to treat stormwater runoff from streets.



Linear park and bikeway at Ballona Creek, Playa del Rey. (2006)

### Goal: Enable Safe Public Access

*Recommendation #4.8:*

Provide opportunities for safe access to the water, ensure that people can quickly exit the channel, and establish a flood warning system in the event of high flow conditions.

*Recommendation #4.9:*

Provide opportunities for temporary pools and lakes for water-based recreation by installing inflatable rubber dams.

*Recommendation #4.10:*

Create a variety of public spaces, including small pocket parks, natural areas, and urban plazas and civic spaces in "reclaimed" areas of the channel.

*Recommendation #4.11:*

Ensure public safety by using alternate "greening" techniques in areas where the concrete remains necessary for flood damage prevention.

*Recommendation #4.12:*

Continue development of non-motorized transportation and recreation elements including bike and pedestrian paths and multiuse trails in the River and tributary rights-of-way.

## Long-Term Vision



Soft-bottomed portion of the Los Angeles River, near Los Feliz Boulevard in Los Angeles (2006)

### Goal: Restore a Functional Riparian Ecosystem

*Recommendation #4.13:*

Create a continuous functional riparian corridor that provides habitat for birds, mammals, amphibians, reptiles, invertebrates, and fish within the channel bottom.

*Recommendation #4.14:*

Connect this corridor to other significant habitat and migration routes along the tributaries and into the mountains.

*Recommendation #4.15:*

Improve water quality and provide fish passages, ladders, and riffle pools that would support desirable fish species, including steelhead trout if feasible.

*Recommendation #4.16:*

Bio-engineer the River's edge where feasible to create and restore wildlife habitat along the upper reaches of the River.

# A PHASED APPROACH TO RESTORATION AND REVITALIZATION

## WHAT WILL RESTORATION INVOLVE?

To increase the opportunities for a federal partnership with the U.S. Army Corps of Engineers (Corps), the Plan’s recommendations also address the Corps’ ecosystem restoration mission requirements

The Corps’ ecosystem restoration mission involves restoring significant ecosystem functions, structure, and dynamic processes that have been degraded. The intent of restoration is to partially or fully reestablish the attributes of a naturalistic, functioning, and self-regulating system. A return to historic conditions is not required.

Projects implemented under the Corps’ ecosystem restoration guidance address wetlands, riparian, and other floodplain and aquatic systems.

## THE CHALLENGE

Achieving the long-term revitalization goal of restoring the River’s riparian corridor and ecological function is a goal that may take generations to achieve. As land in the watershed is developed or redeveloped with greater diversity and more impervious surfaces, stormwater runoff has fewer places to be absorbed or retained, and the volume, velocity, and temperature of water in the River channel increases, along with pollutants. Substantial increases in channel capacities and reductions in flow velocities will be necessary to naturalize stretches of the River, which may take many years to accomplish. In the meantime, the Plan recommends identifying and phasing improvements that could be made in the near-term to maintain momentum and to demonstrate the ecological and public-access benefits of revitalization.

## RECOMMENDATIONS

To ensure that improvements can be made in the near-term, the Plan proposes a phased, “top down” approach for ecological restoration projects that would construct water quality terraces, natural areas that provide habitat, overlooks, and pathway connections. These features can be introduced with minimal changes to the existing channel configuration. Over the long-term, as funding is made available to increase channel capacity and reduce flow velocities, the channel section might be modified further to reintroduce a functional riparian corridor in the channel bottom. The intent to install long-term improvements without having to fully replace near-term improvements is facilitated by working top-down.

The images on this page and the facing page illustrate how this top-down phasing strategy might work. The first image in each row depicts existing channel conditions, the second image includes possible near-term improvements, and the third illustrates long-term restoration possibilities. As illustrated, near-term improvements (A) incorporate public access, bike paths and pedestrian trails, wildlife habitat, and water quality treatment at or slightly below the top of the existing bank. Longer-term improvements (B) restore ecological function through reintroduction of a riparian corridor in the bottom and side terraces of the channel. The Plan recommends an adaptive management approach to phasing, implementing this top-down approach in selected pilot or demonstration sites, and evaluating and incorporating what is learned about guidelines for restoration in future efforts.

## TYPICAL TRAPEZOIDAL CHANNEL



Existing conditions, trapezoidal section at Canoga Park. (2006)

## TYPICAL RECTANGULAR CHANNEL



Existing conditions downstream of Sepulveda Dam to the confluence with Tujunga Wash. (2006)

## PRECONDITIONS FOR RESTORATION

- A reduction in peak water flow velocity to 12 feet per second or less will help riparian vegetation to become reestablished. Some periodic scouring is still expected to occur under this flow regime, and is in fact desirable for a healthy ecosystem.
- Until flow velocities can be reduced, introduction of vegetation above the 50-year flood water surface elevation will minimize maintenance and washouts. The intent of this criterion is to define a reasonably rare event that represents an acceptable level of maintenance risk.

## NEAR-TERM IMPROVEMENTS

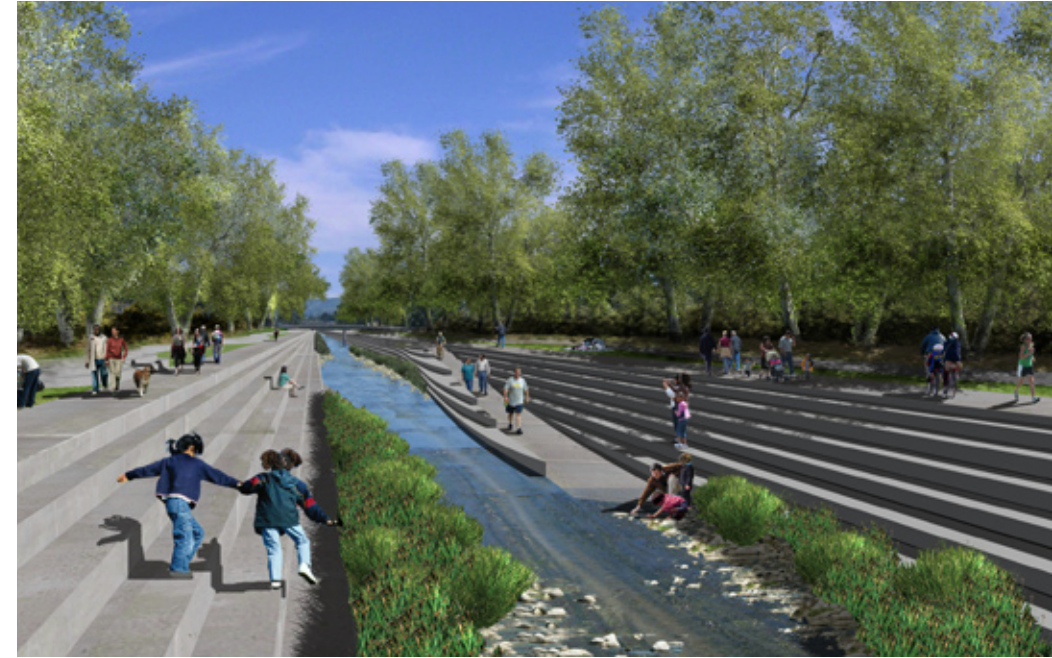
- Improvements at or near the top of the existing banks might include water quality “green strips” and tree plantings that provide wildlife habitat, shade, and cover.
- Improvements within the channel might include in-channel water quality treatment terraces, trails or overlooks, pocket parks or native areas, and temporary ponded areas.

## LONG-TERM IMPROVEMENTS

- Longer-term modifications entail reconstructing the channel bottom and lowering banks to provide a pool and riffle system for steelhead trout or other fish, and to reestablish a riparian corridor.



(A) Near-term improvements illustrate “greening” the concrete with a trail, native vines, and natural area.



(B) Long-term improvements modify the channel to restore riparian habitat and provide terraced access. Rubber dams could be installed to allow water to be pooled in certain locations.



(A) Near-term improvements provide terraced access on one side and a large upland native wildlife habitat area on the other.



(B) Long-term improvements incorporate access on both sides and a restored riparian corridor in the channel bottom. Rubber dams could be installed to allow water to be pooled in certain locations.

## RECOMMENDATIONS

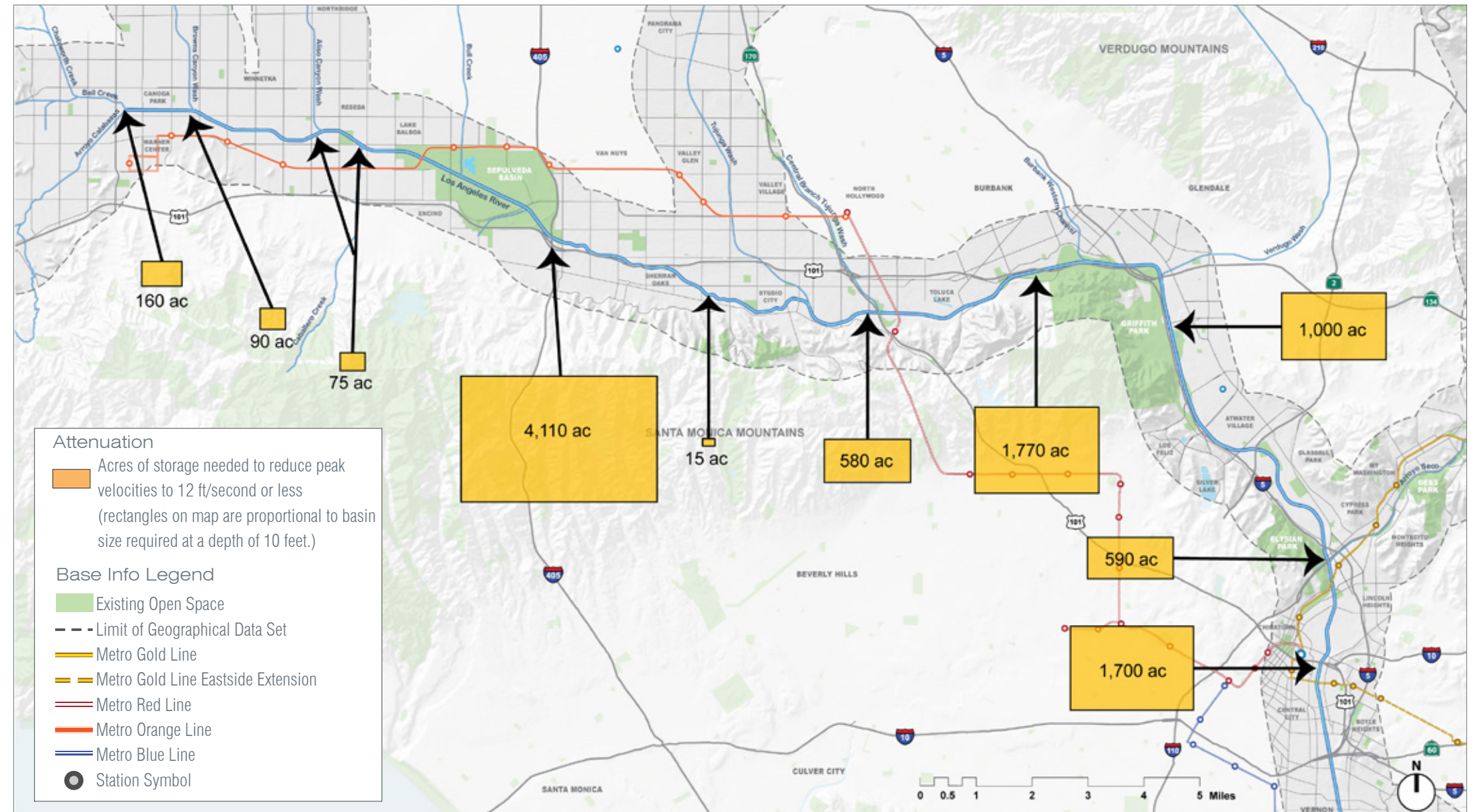
### Recommendation #4.1:

Identify opportunities for peak flood storage outside the channel to reduce flow velocities in the River to sub-critical (less than 12 feet per second) levels. This will support the maintenance and reestablishment of vegetation at this maximum level.

### Recommendation #4.2:

Identify opportunities for selective acquisition of additional rights-of-way to expand the River's floodplain.

Estimated Water Storage Needs to Reduce River Flow Velocities



Each rectangle is a scaled representation of the number of acres required to reduce River flow velocities to sub-critical levels in different areas along the River. The numbers are based on analysis (Tetra Tech, August 2006) that considered the portion of the hydrograph peak that needed to be stored to maintain velocities of 12 feet per second or less in the channel, based on inflow from each tributary. This illustrates what storage would be necessary if no other channel or watershed changes take place. The storage area required has been analyzed on a gross level and indicates general storage requirements desired for velocity reductions. When feasible, storage facilities should be located as close as possible to the mainstem of the River to increase the effectiveness of the storage volume.

## GOAL: ENHANCE FLOOD STORAGE

### THE CHALLENGE

One of the most important issues influencing the planning process is the need to maintain existing flood-control capacity. Residents who experienced the River during a significant flood have expressed the need for assurances that any proposed improvements would not increase the possibility of flood hazards. The Los Angeles County Department of Public Works and the U.S. Army Corps of Engineers, in partnership with the City, will not permit improvements that would compromise existing flood control in the River channel.

Restoring wildlife habitat and vegetation within the River channel, and providing for recreational improvements, would require additional and compensatory flood capacity. Introducing vegetation in the River bottom, for example, will require the channel capacity to expand by one and one-half to five times its present width depending on the type and extent of vegetation used.



Flooding in 1941 washed out numerous bridges. (Los Angeles Public Library Photo Archives; used by permission.)

### RECOMMENDATIONS

Recommendation #4.1: Identify opportunities for peak flood storage outside the channel to reduce flow velocities in the River to sub-critical (less than 12 feet per second) levels. This will support the maintenance and reestablishment of vegetation.

Previous planning efforts have emphasized the value of reducing stormwater runoff and adding flood storage capacity. Previous studies have also addressed the benefit that may be realized by detaining water in existing reservoirs, basins in the mountain areas, and even storage resulting from increased forest growth (US Army Corps of Engineers, 1991; Tetra Tech, Inc., 1997). The current study has established specific performance goals that identify the approximate amount of storage required to achieve a defined level of benefit. Since a major driver of this Plan is to reduce flow velocities to a sub-critical level of 12 feet per second or less in order to sustain and restore riparian ecosystems, this performance criterion has been used to develop and map estimates of the land area required for storing peak water flows. Twelve feet per second is herein considered the upper maximum flow velocity to maintain a stable channel cross-section, and may still require bio-engineered slope protection. This twelve feet per second design criterion will be validated through the U.S. Army Corps of Engineers Los Angeles River Ecosystem Feasibility Study. It will be revised as warranted by these evaluations.

Flows within the Los Angeles River incorporate inflows from the tributaries, so the approximate land area requirements for storage are mapped geographically, and reach by reach, to take into account increasingly larger volumes of water in the channel as flow continues downstream. The map on the facing page illustrates the storage required in each area to reduce flows to 12 feet per second or less. The boxed areas are scaled representations of the land area required, assuming basins that are ten feet deep. *It is important to note that land area requirements identified in the downstream reaches are dependent the storage capacities that are indicated upstream.*

The map on the facing page illustrates the acres of land required in each area, these range from under 100 acres in portions of the upper San Fernando Valley, and between Sepulveda Dam and Tujunga Wash, to much more significant requirements in the range of 600 -- 1,800 acres downstream, as flows accumulate from Tujunga and Verdugo Washes and the Arroyo Seco.

### CONCURRENT PLANNING EFFORTS

- The Sun Valley Watershed Management Plan addresses an area of chronic flooding with alternative approaches to the construction of traditional storm drains, such as using existing gravel pits for flood detention and the construction of underground basins below parkland to infiltrate runoff. If successful, the Sun Valley Plan will serve as a model for retrofitting existing public infrastructure and selected private properties to serve flood control functions and provide water supply and water quality benefits.
- Other regional planning efforts, including the Integrated Regional Water Management Plan (IRWMP), also emphasize the need for a more integrated flood management system and greater flood storage capacity. One of the major impediments to increasing flood storage capacities is the lack of available land within the watershed. Unless these storage facilities provide other benefits, such as recreation and habitat restoration, or unless underground storage is provided in large commercial developments or parking lots, near-term opportunities to expand storage will come from “repurposing” existing facilities rather than acquiring new storage areas.

Opportunities for peak-flood storage outside the channel most likely will be found in the following locations:

- In the upper San Fernando Valley, between the point of origin of the Los Angeles River in Canoga Park and the Sepulveda Basin, where land area requirements are small and may be more readily attained.
- Within the Sepulveda Basin itself, through selective excavation over time. The Basin encompasses approximately 2,500 acres of Federally-owned land that is leased to the City and provides extensive area for potential storage. Any excavation will need to be accomplished in phases to minimize disruption to existing uses and to ensure that the function of existing uses are maintained or restored. Further, storage would need to be coordinated with the Basin's outlet operations so that water may be released if necessary.
- Between Sepulveda Basin and Tujunga Wash, assuming the needed upstream storage can be accomplished within the Basin itself.
- Through a combination of storage areas along the Tujunga Wash and possibly at the confluence, because so much water enters the River from this tributary.

Ultimately, stored water could be used for irrigation or infiltration. Other downstream areas may offer selective benefits (for example, the Spreading Grounds, or Taylor Yard), but the associated land areas are much smaller, and consequently would accommodate less water unless basins were quite deep.

The figures on the previous pages illustrate the acres of off-channel storage needed to achieve design criteria, but it should be noted that off-channel storage is not envisioned as the only means of accomplishing these goals. Other strategies include upstream and within-watershed volume reduction through the implementation of on-site stormwater control measures; storage off-channel upstream in the tributaries; and expansion of capacity through deepening the channel or through construction of additional underground box culverts.

Practical considerations associated with transitioning flows into and out of the culverts from the channel suggest that this approach is not viable as the sole strategy. Securing additional capacity to contain flood water in culverts would be most effective as part of a strategy that also incorporates peak flow storage outside the channel, as well as channel widening.



With modifications, the 2,500-acre Sepulveda Basin could store significant amounts of floodwater, reducing flow velocities downstream. (2006)

Recommendation #4.2: Identify opportunities to selectively acquire additional rights-of-way to expand the River's floodplain.

A third method exists for providing adequate flood storage capacity to restore habitat in the channel bottom. This involves acquiring additional land area to either widen the channel or to create public open areas that effectively re-creates the floodplain.

An analysis of the additional land required to slow flows to 12 feet per second or less indicated that an estimated 150 to 250 feet of additional River width would be needed above Tujunga Wash. Below Tujunga Wash, approximately 600 feet of additional River width would be needed, and even more needed below Verdugo Wash.

This analysis suggests that land acquisition could represent one component of a long-range strategy for restoring functional habitat within the Los Angeles River, either as a primary strategy or in combination with off-channel storage and underground culverts. Complimentary efforts that occur watershed-wide are also critical to reducing the required capacity of the channel for specific storm events.

Additional benefits included in a long-term strategy for land acquisition include, increased opportunities for installation of stormwater treatment facilities, habitat restoration, reconfiguration of the channel to allow for possible future Steelhead Trout migration, recreation including bicycle paths and pedestrian trails, open space, ball fields, and possibly groundwater recharge.



The confluence of the Los Angeles River (on the right) and Tujunga Wash could provide another opportunity for peak-flow storage, and would have an especially beneficial effect given the volume of inflows from Tujunga Wash. (2006)

## RECOMMENDATIONS

### Recommendation #4.3:

Emphasize multiple-benefit landscape treatments and “green infrastructure” improvements.

### Recommendation #4.4:

Implement water quality treatment at multiple scales to maximize efficiency.

### Recommendation #4.5:

Create landscape-based water quality treatment at major confluences of the River to treat pollutants carried by tributaries.

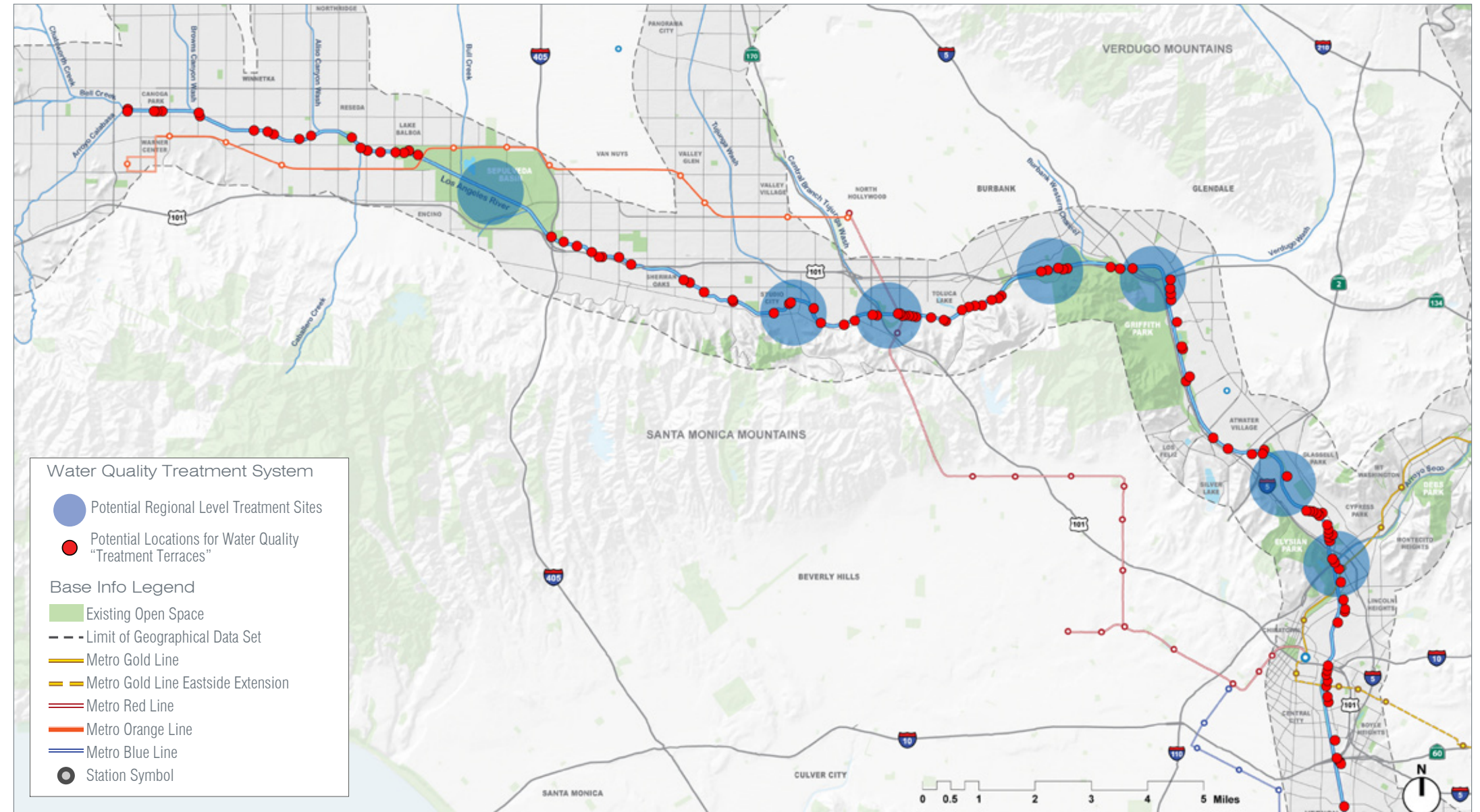
### Recommendation #4.6:

Develop “treatment terraces” within the channel to treat stormwater flows that “daylight” or come to the surface in the River.

### Recommendation #4.7:

Create landscape-based “green strips” at the top of Riverbanks and in adjacent linear parkland and streets to treat stormwater runoff from streets.

Potential Regional and In-channel Treatment Areas



The graphic above shows potential locations of large, regional-scale, water-quality-treatment wetlands at the confluences of major tributaries, or on City-owned land adjacent to the channel. It also shows locations of major stormwater flows (30 to 60 inches in diameter) that might be served by in-channel water quality “treatment terraces.”

## GOAL: ENHANCE WATER QUALITY

### THE CHALLENGE

Improving water quality is a major priority of this Plan. With the increasing urbanization of Los Angeles, the quality of the water in the River has declined significantly. Most of this is due in large part to untreated stormwater runoff that is allowed to enter the River through one of approximately 2,200 storm drain outlets. Agricultural, industrial, and residential development over the past century, along with the use of pesticides, fertilizers, and household chemicals, have resulted in degradation of surface and ground waters within the region. Analysis indicates that water quality is poor in all reaches of the Los Angeles River considered in this Plan.

The Plan proposes a comprehensive system of water quality treatment facilities that includes regional treatment, in-channel treatment, and on-site controls to deal with both runoff reduction and water quality treatment. In this regard, proposals are consistent with the Integrated Resources Plan, the Integrated Regional Water Management Plan, the City's Stormwater Management Plan (currently underway), and is intended to be consistent with future City efforts at developing sub-area "loadings" of pollutants flowing to the River.

General locations for regional and in-channel treatment are specified, and illustrated sizing criteria and performance for in-channel treatment terraces have been evaluated to assess the feasibility of the concept. The in-channel water quality "treatment terraces" would be constructed above the elevation of a 50-year flood to minimize anticipated maintenance. The 50-year flood standard is viewed as a comparatively rare event that represents an acceptable level of maintenance risk from washout. While treatment within the channel does not provide credit toward Total maximum daily Load (TMDL) requirements, this Plan recommends that the City work with the Regional Water Quality Control Board to change this policy so that in-channel treatment could satisfy TMDL compliance requirements in the future.

A logical next step as the Plan moves forward into implementation is to develop specific pollutant removal targets for each type of constituent considered, and to develop removal goals for each geographic reach and for each scale of treatment. This must, of necessity, be coordinated among all of the planning efforts listed above, so that each effort reinforces the other.

Moreover, because many of these plans deal with treatment upstream in the watershed, either along a tributary or at a private, on-site location, performance goals need to be established that take this into consideration. This would entail defining treatment areas within the watershed at a level of specificity that was beyond the scope of this Plan. However, it is a very important "next step" in the development of an integrated, watershed-wide stormwater strategy. As noted repeatedly, the River cannot and should not be expected to be the treatment location "of last resort" for stormwater runoff originating elsewhere in the watershed.

An integrated approach to developing runoff reduction and water quality treatment goals would also be helpful in attempting to quantify benefits associated with conservation and groundwater recharge within the watershed. Captured and conserved, that water would have tremendous value for augmenting the region's water supply. It is possible that the system-wide deployment of these projects could generate for other required water infrastructure systems enough local water value and savings to finance a major portion of this Plan's implementation.

### RECOMMENDATIONS

**Recommendation #4.3:** Emphasize multiple-benefit landscape treatments and "green infrastructure" improvements.

Landscape-based treatment strategies can play significant roles in helping the City comply with Total Maximum Daily Load (TMDL) requirements that govern the amount of pollutants allowed to enter the River. Landscape-based treatment can be especially effective in addressing nutrients and, to some degree metals. These areas may be used in conjunction with and adjacent to other landscape features to additionally provide aesthetic value, active and passive recreation, and habitat.

When treatment wetlands provide habitat for wildlife, it is important to apply careful design and maintenance practices that avoid exposure to high concentrations of nutrients, metals, and other harmful elements. As suggested in earlier studies (e.g., California State Coastal Conservancy, 2002), pilot projects should be undertaken to allow for sound science and adaptive management to guide recommendations for construction and management of treatment wetlands.

### CONCURRENT PLANNING EFFORTS

- Both the Integrated Resources Plan (IRP) and the Integrated Regional Water Management Plan (IRWMP) call for reduction and reuse of stormwater runoff volumes through onsite measures, such as reducing impervious surfaces or using other Best Management Practices (BMPs) to capture, treat, and infiltrate storm runoff.
- Both the IRP and the IRWMP advocate capturing and treating remaining stormwater runoff from developed areas at or near the source. Both plans emphasize multi-purpose solutions that support functional wildlife habitat, provide for recreation, and support groundwater recharge where appropriate.
- Both the IRP and the IRWMP advocate a systematic approach to water quality enhancement throughout the watershed, treating runoff on-site on both public and private sites, and using public properties, including parks, schools, and civic sites, as treatment facilities.

## HOW EFFECTIVE ARE WATER QUALITY TREATMENT TERRACES?

Efforts to quantify treatment capacities of water quality terraces constructed in the River channel indicate that they are most effective during very low-flow conditions, such as runoff from lawn irrigation, or the first one-half to three-quarter inch of rainfall. For example, a typical vegetated area of 100 by 20 feet, with 1 to 2 cubic feet per second of inflow during dry weather could potentially remove an estimated 50 percent of the metal load. (Note that the amount of load reduction depends on where BMPs are located, the relative flow of water to the BMP, the amount of loading of constituents for the subarea, and the specific BMP being used.)

**Recommendation #4.4:** Implement water quality treatment at multiple scales to maximize efficiency.

The Plan recognizes that water quality treatment should be accomplished at multiple scales to maximize efficiency. It proposes a three-tiered system involving 1) regional-scale treatment at major confluences or on large City-owned properties, 2) treatment of stormwater emerging from major storm drains within “water quality treatment terraces” constructed in the River channel or immediately adjacent to the channel, that would be located in available open space/parkland, and 3) local or site-level treatment of surface drainage. These are illustrated in the recommendations that follow.

On-site and neighborhood source controls as well as treatment upstream within the tributaries are an especially important component of this three-tiered system. As stated in Chapters 3 and 4, the River cannot solve all of the water quality problems arising within the watershed. The Plan encourages development of comprehensive policies, consistent with the City’s Stormwater Management Plan (in progress), that support on-site source controls that will minimize and treat stormwater runoff at the point of origin.

**Recommendation #4.5:** Create landscape-based water quality treatment at major confluences of the River to treat pollutants carried by tributaries.

Regional-scale treatment includes treatment of stormwater flows along the tributaries and their confluences, and within larger land areas along or outside the channel that could be harnessed for treatment purposes. Because of their large size and treatment of more substantial pollutant loads, these regional facilities offer the potential for economies of scale. The confluence areas also can provide multiple benefits if they help to reestablish wildlife habitat.



An illustration of a potential large regional water quality wetlands area at Taylor Yard

Opportunities for regional-scale water quality treatment within the Plan’s study area include:

- **Sepulveda Basin:** The Basin provides significant land area that could be used for water quality treatment and habitat improvement.
- **Tujunga Wash and its confluence with the Los Angeles River:** Reports developed for the Sun Valley Watershed Management Plan identify upstream areas that could be used for flood storage as well as water quality treatment. A treatment facility also might be effective at the confluence, if land were to become available.
- **Golf Courses:** Several golf course properties within the Plan area are adjacent to the River. Opportunities may exist in the future to create sand filters and underdrain systems below golf courses, that would cleanse runoff before it enters the River.
- **The Spreading Grounds:** Water quality treatment could be incorporated into this site near Griffith Park.
- **Verdugo Wash and Confluence with the Los Angeles River:** Approximately 15 acres could be purchased at the confluence for significant water quality treatment, similar to Tujunga Wash. Upstream opportunities for treatment within the Wash also should be investigated.
- **Taylor Yard:** If purchased, the 42-acre G2 parcel could be reconfigured for significant water quality treatment.



Potential water quality system at the confluence of the Arroyo Seco and the River

1. Storm flows from development routed through green roofs and stored in cisterns.
2. Water stored in cisterns and pumped into treatment wetlands.
3. Treated runoff infiltrates into the River and the aquifer.
4. Storm flows from the Arroyo are diverted through treatment wetlands.
5. Street runoff is routed through treatment wetlands.

- **Arroyo Seco Confluence:** City-owned lands could be used to demonstrate site-specific water quality treatment. Over the long term, areas in public ownership could be reconfigured to provide more significant water quality treatment benefits.

As part of a regional-scale water quality treatment strategy, City-owned property could be modified to provide water quality treatment, following the precedent set by the Potsdamer Platz project, in Berlin, Germany. Runoff from building roofs and parking areas is captured and stored in underground cisterns, then brought to the surface, treated, and used to irrigate native landscapes. The City-owned lands at the Arroyo Seco confluence offer a significant opportunity to demonstrate this approach, and can produce real and substantial flood management and water quality benefits.

**Recommendation #4.6:** Develop “treatment terraces” within the channel to treat stormwater flows that “daylight” or surface in the River.

“Outfall-level” treatment focuses on the concentrations of storm drains that “daylight” or emerge into the River. One solution is to provide water quality treatment terraces within the River channel, above the 50-year storm elevation, to treat low flows from large capacity storm outfalls before the stormwater is discharged into the River. Again, the 50-year elevation has been chosen simply because it represents a reasonably rare event and potentially acceptable level of maintenance risk.

Storm outfalls (or pipes through which stormwater emerges) ranging in size from 30 to approximately 60 inches are most appropriate for treatment terraces, though the size of the pipe does not necessarily correlate with runoff volume during low-flow conditions. These larger pipes do, however, tend to be used for larger drainage areas that may convey more pollutants, even during low flows. In situations where these high-volume storm outfalls are located below the elevation of the treatment terrace, photovoltaic pumps could be used to raise the water to the terrace.

This proposed in-channel treatment does not qualify for compliance with TMDL requirements, because flows are required to be treated *before* they enter the River channel. However, the Plan recommends discussions with the Regional Water-Quality Control Board to define the channel for the River as the low flow or constant-flow elevation, thereby allowing treatment terraces to assist in TMDL compliance.



An illustration of in-channel water quality treatment terraces that incorporate native plantings, on the right bank, downstream of Tujunga Wash.

**Recommendation #4.7:** Create landscape-based “green strips” at the top of Riverbanks and in adjacent linear parkland and streets to treat stormwater runoff from streets.

“Green strips” or bioinfiltration gardens, within the existing River right-of-way and on adjacent parkland can treat surface runoff from adjacent streets prior to flowing into storm drains or the River.

The Plan recommends the use of site-specific water quality BMPs for City-owned and public facilities (for example, parks and schools), as well as residential and commercial areas. Infiltration strips along street medians or curbside infiltration areas can intercept street runoff before flow enters catch basins and storm drains. With heavier rainfall or when street flow exceeds the capacity of the infiltration areas, runoff would bypass the diversion and enter the catch basin system. These diversions could be as simple as small humps in the gutter before the catch basin locations that direct flow into curbside green strips. These smaller-scale solutions can complement regional and outfall-level treatment facilities, though they treat smaller volumes and maintenance may cost more because they are small and distributed over larger areas.

Finally, the Plan endorses the use of the Stormwater Best Management Practice Handbooks, published by the California Stormwater Quality Association, and other suitable publications for guidance in designing and implementing project-specific construction Stormwater Management Plans. Where appropriate, consultation with the Regional Water Quality Control Board would be undertaken with respect to the introduction of BMPs.



A “green strip” in the Los Angeles Zoo parking lot filters stormwater runoff. (2006)



Site-specific BMPs like this “rain garden” can be used as needed on public and private sites. (2000)

## RECOMMENDATIONS

### Recommendation #4.8:

Provide opportunities for safe access to the water, ensure that people can quickly exit the channel, and establish a flood warning system in the event of high flow conditions.

### Recommendation #4.9:

Provide opportunities for temporary pools and lakes for water-based recreation by installing inflatable rubber dams.

### Recommendation #4.10:

Create a variety of public spaces, including small pocket parks, natural areas, urban plazas, and civic spaces, in “reclaimed” areas of the channel.

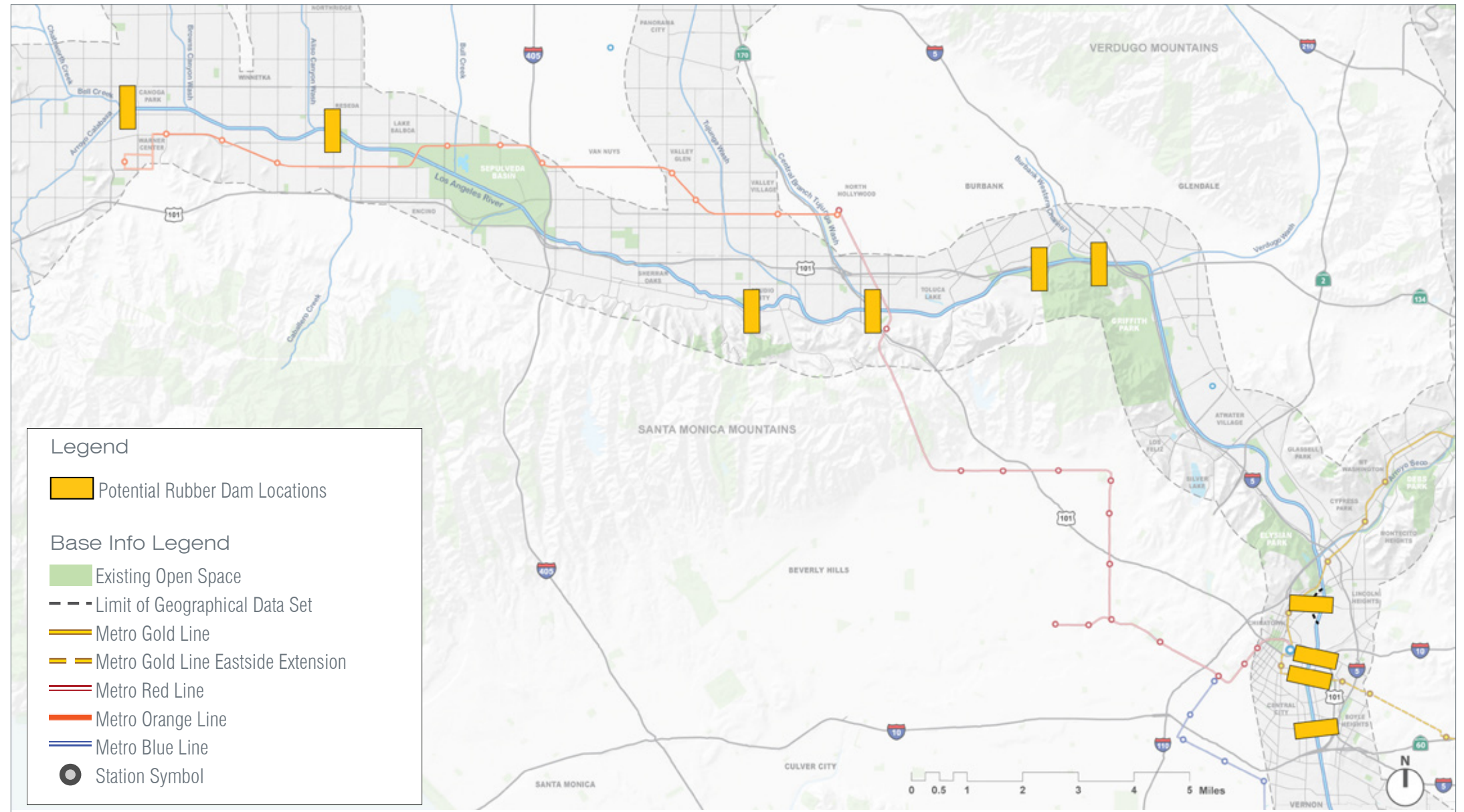
### Recommendation #4.11:

Ensure public safety by using alternate “greening” techniques in areas where the concrete remains necessary for flood damage prevention.

### Recommendation #4.12

Continue development of non-motorized transportation and recreation elements including pedestrian paths and multiuse trails in the River right-of-way and its tributaries.

Potential Rubber Dam Locations



The graphic above shows potential locations for ponds or impoundments created by installing inflatable rubber dams. Actual locations will be determined when the design of proposed improvements is complete.

## GOAL: ENABLE SAFE PUBLIC ACCESS

### THE CHALLENGE

More than 70 percent of Los Angeles residents do not live within a quarter-mile of a park or open space. This standard metric, popularized by the Trust for Public Land, has been incorporated in many cities' parks and open space systems. Reshaping the River corridor to create small pocket parks and open space can help the City provide more of these public amenities within walking distance.

### RECOMMENDATIONS

The Plan offers four recommendations for making more effective use of the River as a more accessible recreation and open space asset. These recommendations consider the River, as noted landscape architect Frederick Law Olmsted did in the 1920's, as the spine of a city- and region-wide system (described in more detail in Chapter Five).

**Recommendation #4.8:** Provide opportunities for safe access to the water, ensure that people can quickly exit the channel, and establish a flood warning system in the event of high flow conditions.

People are drawn to water, especially in areas like Los Angeles, which has extreme variations in moisture. Many residents who attended the public meetings for the Revitalization Master Plan recalled how they or their acquaintances played, fished, and swam in the River years ago. And the lure still exists, especially for children, though there are compelling concerns about safety and security when flood waters rise.

Public access to a city's river is the norm in many countries and throughout most of the United States. Along the Wien River in Vienna, Austria, the riverbed is used for festivals and candlelight dinners during the dry season. Seoul's Cheong Gyecheon River (a 2006 "Sister River" of the Los Angeles River) incorporates multi-purpose pathways at the river's edge, while the Rio Besos in Barcelona -- which exhibits hydrologic conditions very similar to the Los Angeles River -- allows extensive recreational access yet provides a variety of warning systems so that visitors can safely exit in the event of flooding forecasts.

The Plan considers public safety as a critical priority and endorses the County Master Plan's recommendation that jurisdictional partners (the City, the County, and the Corps) work actively to develop strategies and design standards for safe access to the River. Appropriate measures may include endorsing common design standards for channel modifications -- including stepped or terraced access, access-ramp surfacing and interval spacing, and safety fencing -- that allow people to reach the water's edge, yet easily exit in the event of forecasted rain.

Other measures that should be adopted include designing multiple, redundant, warning systems, including signage, horns, warning lights, radio announcements, and physical patrols, that would notify nearby users that higher flow is anticipated. Multiple systems that do not rely entirely on signage are viewed as important to protect the safety of the public, children in particular, who might otherwise ignore a sign.

**Recommendation #4.9:** Provide opportunities for temporary pools and lakes for water-based recreation by installing inflatable rubber dams.

Community members also expressed an interest in selectively ponding areas of the River on a temporary, short-term basis using inflatable rubber dams. Rubber dams and gates frequently are used to detain water for infiltration or raise the water elevation. They could be lowered during high flows as long as the bottom surface of the channel remains smooth during peak-flow conditions. Over the long-term, pools and riffles will be created within the channel to restore habitat for fish, amphibians and invertebrates. A four-to-five foot-high structure would pond water back approximately one-half-mile, depending on the grade at any specific location of the channel. The County has used rubber dams and gates successfully on the San Gabriel River. The Orange County Water District has constructed them on the Santa Ana River, and the City of San Antonio uses them to divert water into the Riverwalk.



top - Existing Rubber dam across the Los Angeles River at the Spreading Grounds. (U.S. Army Corps of Engineers, May 2002)

middle - City of Los Angeles Police Department Bike Unit training along the Los Angeles River Bikeway near Los Feliz. (2003)

bottom - Multi-purpose pathways and a non-motorized bridge along the Cheong Gyecheon River in Seoul, South Korea. (Arman Rin Jr. via Creative Common License and E-mail contact, 2006)

## PROVIDING SAFE PUBLIC ACCESS TO THE RIVER

Presently, public access to the River is limited for safety and liability reasons. When the River was channelized, it was also fenced off to prevent people from falling in or from being swept away during floods. This fencing has been breached in many locations and, in several areas, the River has become a location for homeless encampments and gang activity.

Encouraging more beneficial use, while ensuring public health and safety through a variety of measures, could reduce these undesirable activities and make the River an amenity for all residents of Los Angeles.

The rubber dams are envisioned as intermittent, so that the water elevation behind the dams is maintained for aesthetics and recreation when prudent. The dams would be used only when water would not be allowed to stagnate or interfere with flood capacity. As a riparian corridor is developed within the channel bottom, the continued use of rubber dams or other temporary ponding devices would be evaluated for its effect on habitat quality, and where necessary to support habitat goals, these devices would be discontinued.

The figure on 4-14 suggests areas where rubber dams might be installed. Because rubber dams are a technique that could be implemented in almost any location along the River, providing that flow requirements are met, the Plan includes recommendations that locations be selected on the basis of providing visibility and public access. In addition to rubber dams, the opportunity exists to construct very low-elevation (6 to 12 inches) concrete “speed bumps” that would ramp up and back down along the channel bottom. These would allow very shallow ponding to improve the aesthetics of the channel. This concept needs further analysis to ascertain its feasibility.



Existing: Downstream of Tujunga Wash, the channel is wide, shallow, and offers limited opportunities for public access. (2006)

The Plan recommends that water quality efforts be targeted toward maintaining the River’s “Rec 1” beneficial-use designation. This would allow for safe and consistent implementation of recommendations for water-based recreation and use, including recreational boating. The Cornfields-Chinatown reach, because it is the steepest section of the River, may offer natural opportunities for a kayaking course (illustrated in Chapter Six).

**Recommendation #4.10:** Create a variety of public spaces, including small pocket parks, natural areas, and urban plazas and civic spaces, in “reclaimed” areas of the channel.

This recommendation closely echoes recommendations made in the 1996 County Master Plan, regarding identifying areas in the River right-of-way that could be reshaped to provide more green space in neighborhoods that are especially park-deficient.

Similar to water quality treatment terraces, the existing channel right-of-way might be modified to create small terraced pocket parks and native landscaped areas that could vary in width from 20 to 35 feet, based on the amount of right-of-way available.



Future: A cantilevered greenway trail provides for recreational access and has the additional benefit of shading channel flow to reduce water temperatures.

Recreational terraces would be landscaped with native vegetation and would be suitable for more passive activities. Consistent with recommendations made in previous plans, these pocket parks and related public-use areas would be considered first in the neighborhoods most deficient in usable park space, and be “reserved” mostly for areas where they can be easily and safely used. Planning efforts to create new parks along the River should encourage spontaneous, community-driven projects that are consistent with the overall vision and objectives set forth in this Plan.

Recreational terraces would be installed no lower than the 50-year flood elevation and would minimize the proportion of trees and shrubs installed to reduce maintenance and the likelihood of washouts. In many locations, the 50-year flood elevation is approximately four to six feet below the top of the existing bank, a “human-scale” distance that separates the River from adjacent streets or activity, but does not make people feel isolated and unsafe.



Flood warning facilities along the Rio Besos, in Barcelona, include signs, audible warnings, and access control devices. (2005)

Pathways, ramps, and steps would be constructed to provide safe access to these terraces from the top of the existing bank. Pathways and ramps would be accessible according to guidelines established by the Americans with Disabilities Act (ADA) at approximately one-quarter mile intervals. They could also provide for supplemental maintenance access by connecting with existing maintenance roads at the top of the bank.

*Recommendation #4.11: Ensure public safety by using alternate “greening” techniques in areas where the concrete remains necessary for flood damage prevention*

To provide an improved aesthetic environment for the concrete-lined channel in areas where the concrete needs to remain in order to protect life and property from flooding, the Plan advocates drawing on existing City precedents for greening freeway retaining and sound walls with hanging vines. These will improve the appearance of the River and could be more readily replaced in the event of flooding (than more permanent vegetation, such as shrubs or trees). This type of channel “greening” can occur in the short-term until long-term alternatives for construction and land acquisition can be implemented.

*Recommendation #4.12: Continue development of non-motorized transportation and recreation elements including bike and pedestrian paths and multiuse trails in the River right-of-way and its tributaries.*

This recommendation will be discussed in more detail in the Creating a Continuous River Greenway section of Chapter 5.

## AMERICAN WITH DISABILITIES ACT COMPLIANCE

All River improvements, pedestrian connections and open space should be completely ADA-compliant for standards such as accessibility, grading and surfacing material requirements.

## RECOMMENDATIONS

### Recommendation #4.13:

Create a continuous functional riparian corridor that provides habitat for birds, mammals, amphibians, reptiles, invertebrates, and fish within the channel bottom.

### Recommendation #4.14:

Connect this corridor to other significant habitat and migration routes along the tributaries and into the mountains.

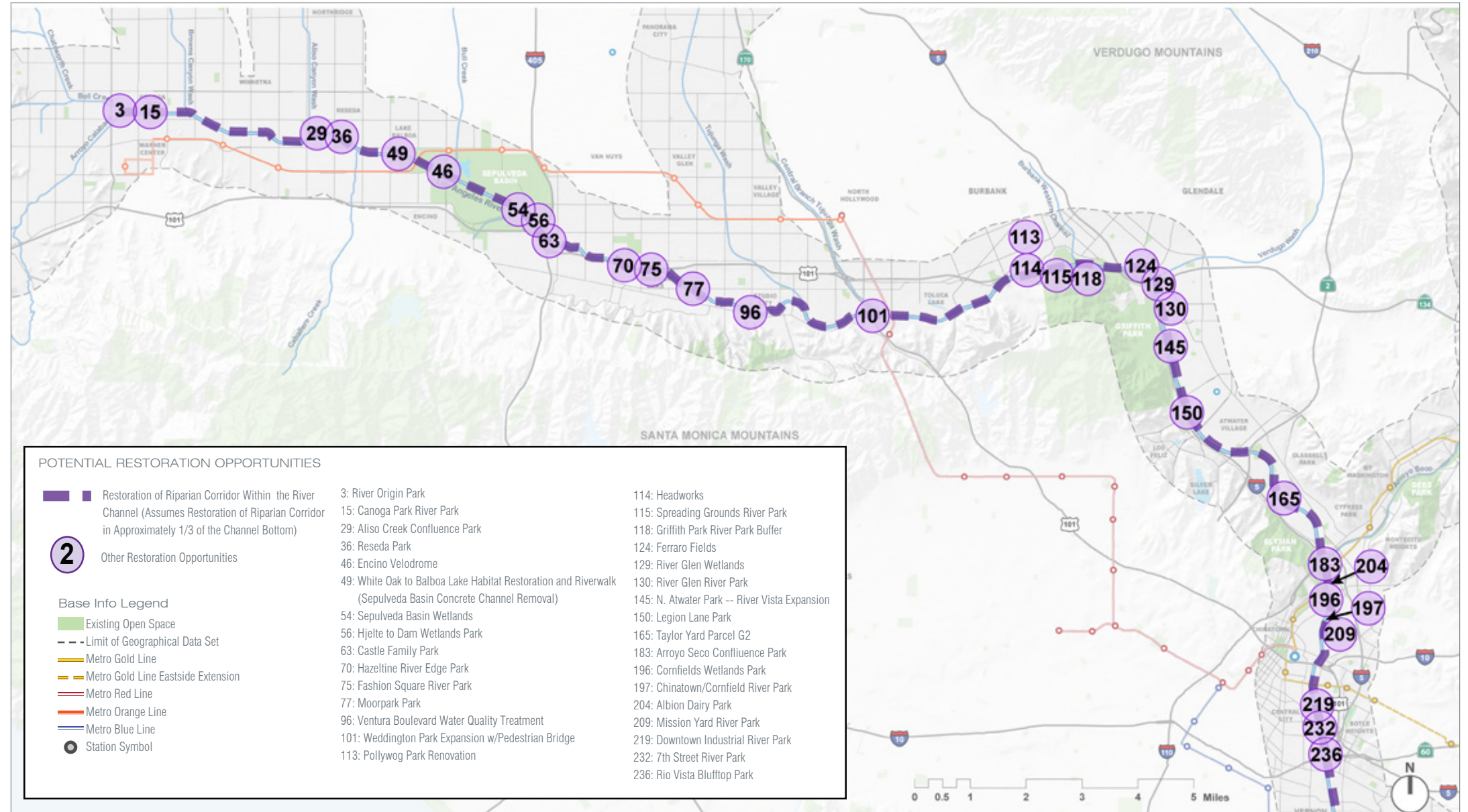
### Recommendation #4.15:

Improve water quality and provide fish passages, ladders, and riffle pools that would support desirable fish species, including steelhead trout if feasible.

### Recommendation #4.16:

Bio-engineer the River's edge where feasible to create and restore wildlife habitat along the upper reaches of the River.

## Potential Restoration Opportunities



This map shows the potential restoration opportunities within the River Channel. The numbers on this map correspond to the potential River project matrix and maps at the end of this document. Note: Locations of habitat opportunities can be found more precisely in detailed reach maps presented in Chapter 10.

# GOAL: RESTORE A FUNCTIONAL RIPARIAN ECOSYSTEM

## THE CHALLENGE

As stated previously, according to the California Coastal Conservancy, close to 100 percent of the original wetlands and 90 to 95 percent of in-stream riparian habitat have been lost within the Los Angeles watershed, a consequence of urbanization and the channelization of rivers and creeks. Within the 32-mile Plan area, the only areas that support riparian habitat are the Sepulveda Basin, the reaches near Griffith Park, and the Glendale Narrows. These areas are increasingly stressed by invasive and non-native species, hydrologic modifications, dumping of trash and debris, and encroaching development.

Because functional riparian habitat and wetlands can improve water quality by removing or sequestering many contaminants, the loss of this habitat has implications for the ecological functioning of the River, as well as for wildlife uses.

Aquatic habitat has also been severely degraded as the River has evolved from a natural system to a paved flood conveyance channel. Habitat is limited and not connected, and the River’s hydroecological function has been affected by channelization. Species affected include the red-legged frog, and most significantly, the steelhead trout. The main barrier to the steelhead trout’s “recolonization” of the River is not temperature or water quality -- though these are factors -- but an unimpeded path from the ocean to the headwaters, and areas in which to rest and spawn. Such an unimpeded pathway would require removing enough of the concrete within the channel to allow a fish to journey from the ocean to the headwaters, via a system of pools, riffles, and runs. Significant riparian cover or other mechanisms would provide shade, and a natural flow regime of high and low flows would be necessary.

This Plan adopts the restoration of a functional riparian corridor, including riffle pools and runs to support fish, as a long-term goal. Currently, restoration of a functioning ecosystem will require major changes to the channel over many years, but will have significant beneficial effects. To increase the opportunities for a federal partnership with the U.S. Army Corps of Engineers, the Plan’s recommendations are designed to comply with the Corps’ ecosystem restoration mission requirements, which involve

restoring significant ecosystem functions, structure, and dynamic processes that have been degraded. The intent of restoration is to partially or fully reestablish the attributes of a naturalistic, functioning and self-regulating system. A return to historic or pre-development conditions is not mandated at this time.

Restoration goals for the Los Angeles River should be based on the functional value of restored habitat. The Hydrogeomorphic Method (HGM) and the Habitat Evaluation Procedure (HEP) are both commonly used assessments of ecosystem components designed to provide a standardized rating of the health and functioning of habitat types. These assessments generally evaluate the ability of an ecosystem to perform natural functions when compared to “healthy” counterpart systems that are in less-altered conditions. This “functional capacity” is estimated in HGM using several indicators, or variables, related to the overall performance of riparian corridors and wetlands. In the case of HEP analyses, a “suitability index” of key habitat components to support the requirements of selected species of fish and wildlife is identified. These methods offer useful and accepted assessment tools with which to evaluate existing conditions and potential future implementation benefits of proposed restoration measures that will be proposed as a result of the Plan.

### Categories of Typical Riverine Wetland Functions

<p><b>Hydrologic</b></p> <ul style="list-style-type: none"> <li>▪ Maintenance of characteristic channel dynamics</li> <li>▪ Dynamic surface water storage</li> <li>▪ Long-term surface water storage</li> <li>▪ Energy dissipation</li> <li>▪ Subsurface water storage</li> <li>▪ Moderation of groundwater flow or discharge</li> </ul>	<p><b>Plant Habitat</b></p> <ul style="list-style-type: none"> <li>▪ Maintenance of characteristic plant communities</li> <li>▪ Maintenance of characteristic detrital biomass</li> </ul>
<p><b>Biogeochemical</b></p> <ul style="list-style-type: none"> <li>▪ Nutrient cycling</li> <li>▪ Detention of imported elements and compounds</li> <li>▪ Detention of particulates</li> <li>▪ Organic carbon export</li> </ul>	<p><b>Animal Habitat</b></p> <ul style="list-style-type: none"> <li>▪ Maintenance of spatial structure of habitat</li> <li>▪ Maintenance of interspersed and connectivity</li> <li>▪ Maintenance of distribution and abundance of invertebrates</li> <li>▪ Maintenance of distribution and abundance of vertebrates</li> </ul>

## CONCURRENT PLANNING EFFORTS

A variety of planning efforts have emphasized restoration of the River’s health. These include:

- The “Los Angeles River Master Plan Landscaping Guidelines and Plant Palettes,” completed in 2004, which provides detailed guidance for planting in the River right-of-way using native plant communities that are sustainable within the water regime available, to achieve areas for foraging, roosting and nesting habitats. Native landscaping associated with the LARRMP would greatly enhance the possibilities of habitat creation and mimic the natural communities that once lined the Los Angeles River. Proposals in this Plan conform to these Guidelines.
- The 1996 County Master Plan emphasizes habitat creation, high-potential restoration projects (for example, at Sepulveda Basin and Taylor Yard), and further study of River bird life and habitat requirements.
- The Tujunga Watershed Management Plan includes proposals for extensive restoration.

## CONCURRENT HABITAT AND OPEN SPACE PLANNING EFFORTS

- Several projects are under study by the U.S. Army Corps of Engineers, whose mission includes ecosystem restoration.
- The South Coast Wildlands program recommends the connection from the River through the Verdugo Wash to the Verdugo Hills/Angeles Crest as a crucial “missing link” for regional habitat connectivity.
- The University of Southern California “Green Visions” program has identified five indicator species: Coyote, Shrike, California Quail, and Lorquin’s Admiral, for habitat health. These are used to assess existing and future biodiversity. The program suggests linkages of smaller habitat patches, and prioritizes the connections between the Sepulveda Preserve and Pierce College. Other exemplary indicators of successful natural habitat restoration include: Lesser Nighthawk; Bell’s Vireo; Cactus Wren; California Gnatcatcher; Swainson’s Thrush; Yellow Warbler; and Tricolored Blackbird.

Indicators that are typically used in the HGM to estimate the hydrologic, biogeochemical and biologic functional capacity of riverine wetlands are listed in the table on the previous page.

For example, an assessment of the functional capacity of riverine habitat to provide natural hydrologic processes may consider the following attributes:

- Alterations of the hydro-regime
- Sediment delivery
- Subsurface flow
- Surface water connectivity
- Surface water persistence
- Channel and floodplain flows

Similarly, the functional ability of an area to “maintain characteristic plant communities” could evaluate the following attributes:

- Age distribution of vegetation
- Amount of contiguous vegetation
- Balance of saplings, shrubs, and trees
- Ratio of native to non-native vegetation

And, habitat elements that benefit steelhead trout could be evaluated for:

- Water temperature during migration periods
- Percentage of pools for refuge and rest during migration
- Canopy cover for temperature moderation and insect input
- Vegetation composition of the riparian zone for food production
- Predominant substrate size.

It is recommended that all available in-channel acreage and out-of-channel open space be evaluated for potential habitat value when determining restoration benefits that will accrue from implementing the Revitalization Master Plan. Functional assessments during feasibility phase planning can help identify the optimal balance of the following ecotypes along the Los Angeles River.

- Riverine habitat
- Wetland habitat
- Water quality wetland habitat
- Native habitat for greenways and street BMPs
- Native habitat for street greening
- Native habitat for parkland

## RECOMMENDATIONS

Recommendation #4.13: Create a continuous functional riparian corridor that provides habitat for birds, mammals, amphibians, reptiles, invertebrates, and fish within the channel bottom.

Though it may take several generations to implement, this Plan seeks to restore a functional, continuous riparian corridor along the channel bottom as habitat for birds, mammals, and perhaps fish. This will require significant reductions in flow velocities, as well as increased capacity within the channel, to accommodate riparian vegetation. More land will be needed for peak flood storage outside the channel, and greater capacity will be necessary through channel widening or additional box culverts. Implementation of the Plan’s recommendations ultimately will require a combination of these strategies.

Four types of locations should be considered as significant areas for restoration: the channel bottom and terraced side-slopes; natural areas at confluences of major tributaries which could provide opportunities for connectivity upstream with habitat along the tributaries; existing publicly-owned lands located on the River channel, including natural areas such as the Sepulveda Basin or City-owned park spaces; and finally, City-owned property adjacent to the River corridor that might be restored as habitat. These potential locations are illustrated on the map on page 4-18. Efforts should ideally be concentrated on restoration of alluvial fan scrub and riparian woodland as these habitat types have been almost completely lost due to channelization and urbanization. Where feasible, a gradient of habitat types, from riparian to upland, should be created.

The images on the following page illustrate the ways additional riparian habitat and native area buffers might be introduced into the channel corridor, and how they might interface with water quality treatment terraces and recreational amenities. To maximize habitat value, habitat zones should be well-buffered from active recreation zones, and in selected areas, public access may be limited seasonally or geographically. The discussion of the Opportunity Areas that follows describes how habitat zones might be integrated into designs for these areas. Continued observation of the reintroduced riparian elements will provide a better understanding of requirements for survival, given the hydrologic challenges posed by the River.

Recommendation #4.14: Connect this corridor to other significant habitat and migration routes along the tributaries and into the mountains.

This riparian corridor can be reconnected to other significant habitat areas in the surrounding mountains through a focus on improving conditions in the tributaries. While the tributaries themselves are beyond the scope of the Plan, follow-up studies are recommended that would develop a more integrated comprehensive strategy for strengthening ecological connections between the River and its tributaries.

Recommendation #4.15: Improve water quality and provide fish passages, ladders, and riffle pools that would support desirable fish species, including steelhead trout if feasible.

Restoration of fish habitat -- for steelhead trout or other suitable species -- is also a long-term goal that compliments restoration of the riparian corridor. Improvements must be made to the entire River corridor -- from the ocean to the headwaters -- to ensure successful steelhead trout spawning. This Plan recommends that, as plans are developed to rework the channel bottom, habitat for desirable fish species are incorporated into the design.

Recommendation #4.16: Bio-engineer the River's edge where feasible to create and restore wildlife habitat along the upper reaches of the River.

This recommendation works outward from the channel bottom and focuses on restoring a more naturalized River edge. As with other improvements, reductions in flow velocities and increases in River capacity will be necessary to enable removal of the concrete "armor" and naturalization of the bank edges. In this respect, the Opportunity Areas -- especially Canoga Park, River Glen, and Taylor Yard, where significant bank naturalization is proposed -- will enable a better understanding of what is feasible and under what conditions.



Existing: Looking north along the existing channel section above 1st Street in Downtown Los Angeles. (2006)



Future: The channel bottom with a restored riparian corridor with native plants.

- The Santa Monica Mountains Conservancy is exploring the possibility of establishing the Los Angeles River as an urban wildlife refuge. This long-term proposal, articulated in its report, "The Los Angeles River Urban Wildlife Refuge: A Vision for Parks, Habitat and Urban Runoff," would require the purchase of numerous parcels of land--both large and small. The refuge would be a flyway for migratory birds, provide year-round habitat for local species, and link habitat within the watershed. The intent of this proposal is compatible with the long-term goals of the Revitalization Master Plan.
- The City of Los Angeles' Recreation and Parks Department is developing a Master Plan for Griffith Park. A draft is now under review.
- The Natural Community Conservation Planning (NCCP) program of the Department of Fish and Game is a collaborative, multidisciplinary effort by the State of California, and numerous private and public partners that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. Many California communities, including San Diego, have used this program to facilitate species reintroduction.

## MANAGEMENT AND MAINTENANCE CONSIDERATIONS

### WHAT IS ADAPTIVE MANAGEMENT?

The Plan recommends an “adaptive management” strategy that identifies and completes selected pilot projects, and uses them to identify adjustments in design approach and strategy. Through testing and refining, the City and its partners will be better able to achieve long-term goals of ecosystem restoration and River revitalization.

### MAINTENANCE AND MANAGEMENT NEEDS

Both near- and long-term River revitalization improvements will result in increased maintenance requirements and costs, such as:

- Maintenance and management of vegetation installed within the channel, including thinning and removing non-native or invasive species;
- Maintenance associated with installation and increased use of recreational facilities within the right-of-way; and
- Clean-up due to scour and/or conveyance of debris washed out during flood events.

As more detailed designs for channel improvements and restoration are developed, estimates will be needed for requirements and costs related to ongoing maintenance and capital repair and replacement.

The Joint Powers Authority (JPA), described in more detail in Chapter Nine, is expected to be the primary entity with the authority and responsibility for overseeing maintenance and capital projects within the River right-of-way. The JPA would include both the City and the County, with the U.S. Army Corps of Engineers participating through a Memorandum of Understanding. This entity is envisioned as being responsible for River right-of-way management and maintenance, including public improvements such as trails, access points, concrete and plant maintenance, low-flow channel maintenance, habitat maintenance, monitoring, public safety and policing of the right-of-way. This entity would also be responsible for phased project development, including design, funding, and implementation of channel and bridge modifications, water quality improvements, and ecosystem restoration within the River right-of-way.

### RECOMMENDATIONS FOR DESIGNING IMPROVEMENTS TO MINIMIZE MAINTENANCE

To ensure that near- and long-term maintenance does not become a burden for the City and its partners, this Plan recommends a number of design guidelines and an “adaptive management” strategy for introducing improvements that would enable learning from experience. The guidelines include:

1) Reduce flows within the River to a sub-critical, 12 feet per second or less velocity to allow plants to become established. Flow velocities in the existing soft-bottom sections of the River approximate this level. Attempting to introduce vegetation within higher flow regimes likely would result in additional maintenance from more frequent washouts. Reducing flows to a sub-critical level is not expected to avoid beneficial scouring within the channel that would result from significant flooding. As a precautionary measure, on a site-by-site basis, an armoring system would be implemented that anchors the plants or uses slope stabilizers such as geotextile fabric.

2) Vegetation should only be introduced where it does not overly constrain flood capacity and only at levels that represent an acceptable level of maintenance risk for vegetation washout. This would generally favor vegetation on the Riverbank at no lower than the 50-year flood elevation. Design will require additional study with consideration of factors including: flow velocity, channel design, how often channel vegetation would be subject to high water based on past history, type of vegetation, maintenance costs, and other parameters.

Because many of the terracing features recommended in this chapter are nontraditional, physical models will also be required during subsequent design phases to analyze hydraulics and refine the design.

3) Continue maintenance access at the top of the bank, either as a dedicated maintenance access where one exists, or through a parallel public right-of-way, as “top-down” channel improvements are introduced. Any ramps and paths introduced in the channel will be designed to carry the weight of maintenance vehicles and to conform to ADA access requirements. Subsequent design efforts will need to assess maintenance access reach-by-reach, considering flood stage and velocities.

# GREEN THE NEIGHBORHOODS 5

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



The "Headworks" along the Los Angeles River, adjacent to Griffith Park (2006)

## GREEN THE NEIGHBORHOODS

This chapter describes proposals for “greening neighborhoods” by transforming the River Corridor into a continuous, Los Angeles River Greenway that functions as the “green spine” of the City.

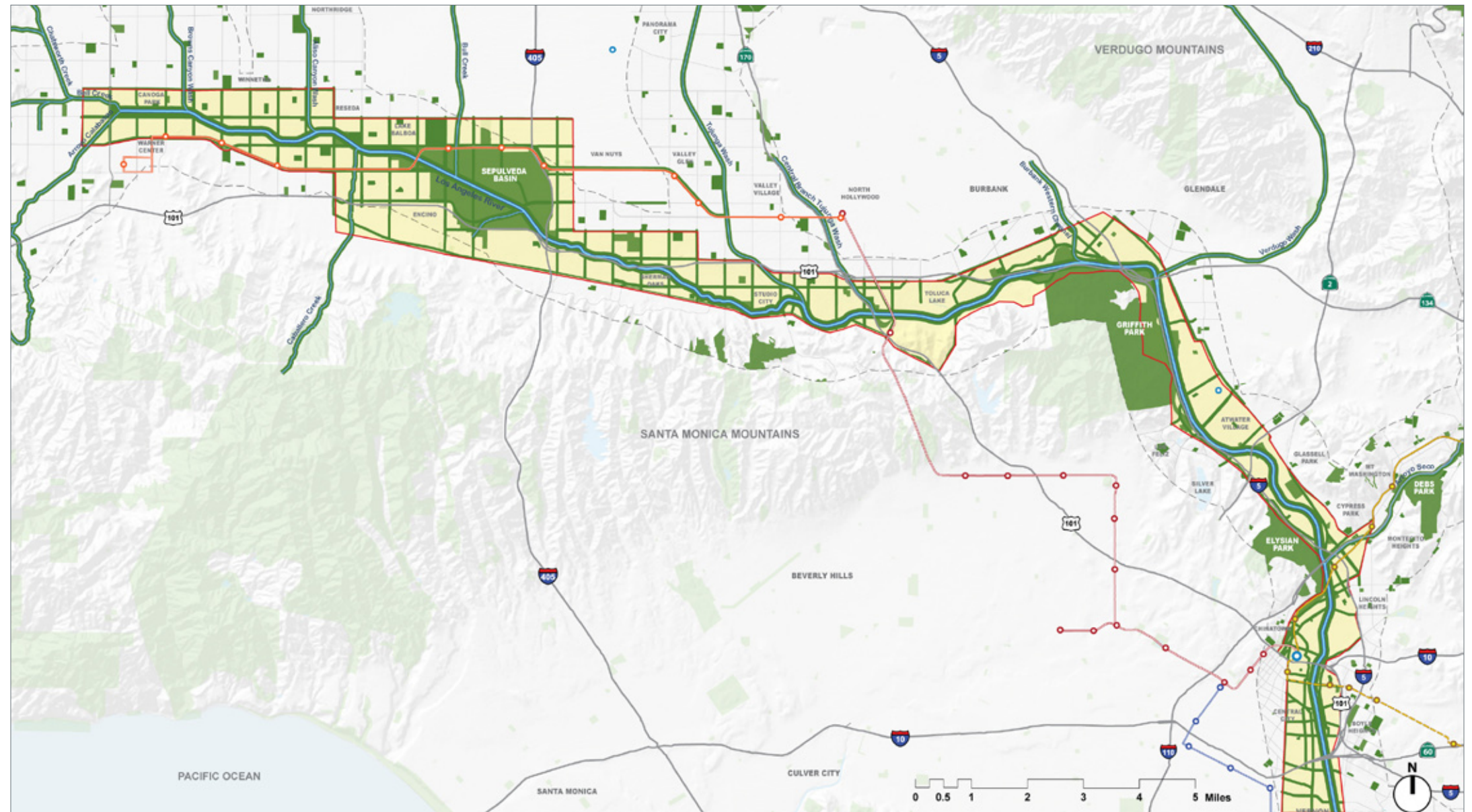
Safe bicycle and pedestrian-friendly connections to the Greenway are provided via a system of arterial and local “green streets” and paseos with pedestrian walks, wide sidewalks, and shady tree lawns. To aid in restoration of functional upland habitat, requirements for these landscaped areas are presented that would meet these goals.

As this system develops, signature elements such as gateways and bridges, are added to reinforce the River’s identity. Building on past efforts, public art is a major component.

Within neighborhoods, underused or vacant space, as well as existing public spaces such as schoolyards, are refurbished and made a part of an emerging green space system.

To accomplish this vision, prototypical cross-sections are provided that can be used as “building blocks” to give form to the Greenway, to new “green streets,” to pocket parks, and to signature River elements.

Green the Neighborhood



A continuous River Greenway, Green Street connections into the neighborhood, improved and expanded open space within the neighborhoods, and an enhanced River identity, are proposed along the Los Angeles River and within the surrounding neighborhoods.

# GOALS AND RECOMMENDATIONS SUMMARY



City of Cuernavaca Park, Denver, Colorado (2005)

Goal: Create a Continuous River Greenway

*Recommendation #5.1:*

Provide opportunities for continuous and uninterrupted movement along the River.

*Recommendation #5.2:*

Establish a River Buffer area within and adjacent to the River that meets riparian or upland habitat requirements.

*Recommendation #5.3:*

Extend open space, bike paths, and multi-use trails into the tributaries.



Guadalupe River, San Jose, California (2004)

Goal: Connect Neighborhoods to the River

*Recommendation #5.4:*

Provide green arterial connections to the River. Where suitable, landscaped areas should be designed to meet upland habitat requirements.

*Recommendation #5.5:*

Create safe, non-motorized routes between the River and cultural institutions, parks, civic institutions, transit-oriented development, schools, transit hubs, and commercial and employment centers within 1 mile of the River.

*Recommendation #5.6:*

Increase direct pedestrian and visual access to the River.



Biofiltration swale along Western Heritage Way near the Los Angeles Zoo. (2006)

Goal: Extend Open Space and Water Quality Features into Neighborhoods

*Recommendation #5.7:*

Increase open space throughout the River Corridor. Where suitable, landscaped areas should be designed to meet upland habitat requirements.

*Recommendation #5.8:*

Provide a diverse system of interconnected parks, recreational fields, and outdoor classrooms.

*Recommendation #5.9:*

Incorporate best management practices (BMP's) in streetscapes and all public landscapes.

*Recommendation #5.10:*

Identify brownfield sites for potential open space acquisition.

*Recommendation #5.11:*

Daylight historic streams that once flowed into the River.



Battery Park City in New York, New York (2004)

Goal: Enhance River Identity

*Recommendation #5.12:*

Identify physical opportunities to improve the visibility of the River Corridor.

*Recommendation #5.13:*

Identify opportunities to improve public perception of the River Corridor.

*Recommendation #5.14:*

Encourage local and diverse character within the River Corridor.



Leo Limón LA Cat (Bob Moore, via Creative Commons License and e-mail contact, 2006)

Goal: Incorporate Public Art Along the River

*Recommendation #5.15:*

Identify physical opportunities to introduce art along the River.

*Recommendation #5.16:*

Create a River arts program that reflects and celebrates the history of the River and the diverse cultures of its surrounding neighborhoods.



## GOAL: CREATE A CONTINUOUS RIVER GREENWAY

### THE CHALLENGE

A continuous River Greenway could serve as the City's "green spine," a framework around which the rest of its public open space is oriented. When complete, it will be one of the longest U.S. urban greenways.

The Los Angeles River Greenway, from the Canoga confluence to Downtown (and eventually to Long Beach), must overcome three challenges. First, there are few opportunities to move uninterrupted along the River without having to cross a street. Of the 80 vehicle and rail bridges, just 12 now allow passage underneath. Providing grade-separated undercrossings at all the bridges will require significant public investment. Until these crossings are completed, the River Greenway will be discontinuous and less safe.

Another challenge is the lack of pedestrian crossings along the River. In some areas, bridges are more than a mile apart, which is a substantial barrier to reaching existing open space, trails, and bike paths. Construction of new pedestrian bridges may require air rights as well as easement negotiations and acquisitions. With more pedestrian bridge crossings, the River can reconnect communities, and link visitors to a larger open space system and to other public resources.

A third challenge is the use of some of the River maintenance rights-of-way by private landowners, for powerlines, and as rail easements. In Studio City, for example, large segments of the maintenance right-of-way are occupied by the motion picture industry and private golf courses. The Downtown right-of-way is occupied mostly by railway and electrical towers. In these areas, easements for public access will have to be negotiated with private landowners, utilities, and rail companies.

### RECOMMENDATIONS

**Recommendation #5.1:** Provide opportunities for continuous and uninterrupted movement along the River.

A continuous network of non-motorized, multi-use trails and bike paths can form the backbone of the Los Angeles River Greenway. The only comparable precedents within the County are along the Pacific Ocean beach, where a pedestrian/bicycle pathway extends 8.4 miles.

The Los Angeles County Master Plan proposed continuous bike paths and multi-use trails along the River. This Plan is consistent with the County Plan's recommendations for new pedestrian bridges along the River. The Revitalization Master Plan recommends that pedestrian bridges be placed approximately every half-mile along the channel, in addition to the proposed connections across the channel. The Plan recommends that all existing and proposed vehicle and rail bridges provide grade-separated undercrossings and bicycle/pedestrian facilities.

**Recommendation #5.2:** Establish a River Buffer area within and adjacent to the River that meets riparian or upland habitat requirements.

A River Buffer area parallel to the River would provide an important separator between the River proper and active uses and development while meeting wildlife and plant habitat requirements, and providing for water quality treatment.

**Recommendation #5.3:** Extend open space, bike paths, and multi-use trails into the tributaries.

The Los Angeles River Greenway could extend alongside the connecting tributaries, to provide a framework for connecting public and natural open spaces. Bike paths and multi-use trails can be added to all tributaries to connect communities to the River, and to grow an open-space and non-motorized transportation network within the City.



Segments of a continuous River greenway have been completed at various locations along the Los Angeles River, as with the Valleyheart Greenway near Laurel Canyon, recently completed by The River Project. (2006)



The Sepulveda Basin Bike Path is a recreational trail that crosses the River three times, within the 2000 acre Sepulveda Basin Recreation Area. It also offers regional connections through the Orange line bike path. (2006)

## LOS ANGELES RIVER GREENWAY

- A continuous bike path and pedestrian trail that incorporates grade-separated crossings for safety at all major cross streets, and provides parallel facilities where needed to minimize user conflicts.

## POTENTIAL LOS ANGELES RIVER GREENWAY PROJECTS

- Canoga Avenue to Vanalden Avenue
- Vanalden Avenue to Balboa Boulevard
- Reseda Park
- White Oak to Balboa Lake
- Van Nuys Boulevard to Burbank Boulevard
- Studio City / Sherman Oaks
- Woodman to Whitsett
- Valleyheart (Coldwater to Whitsett)
- Radford Avenue to Weddington Park
- Cahuenga to Headworks
- Weddington Park to Riverside Drive (by Forest Lawn)
- North Atwater Greenway
- Riverside Drive (by 110 Freeway) to North Spring Street

### GOAL: CREATE A CONTINUOUS RIVER GREENWAY

## THE LOS ANGELES RIVER GREENWAY

An overarching goal of both the Los Angeles County Master Plan and this Revitalization Master Plan is to create a continuous 32-mile Los Angeles River Greenway. The Greenway would provide a dedicated bicycle path on the south and west side of the River, and a multi-use trail on the north and east side. Where feasible, both types of pathways should be provided on both sides.

The Greenway could feature significant amenities such as shade trees, and showcase sustainable practices such as biofiltration swales and the use of locally available materials. The County Master Plan Landscaping Guidelines and Palettes have already established standards for many of these amenities. Other elements may be added in keeping with local neighborhood needs and character.

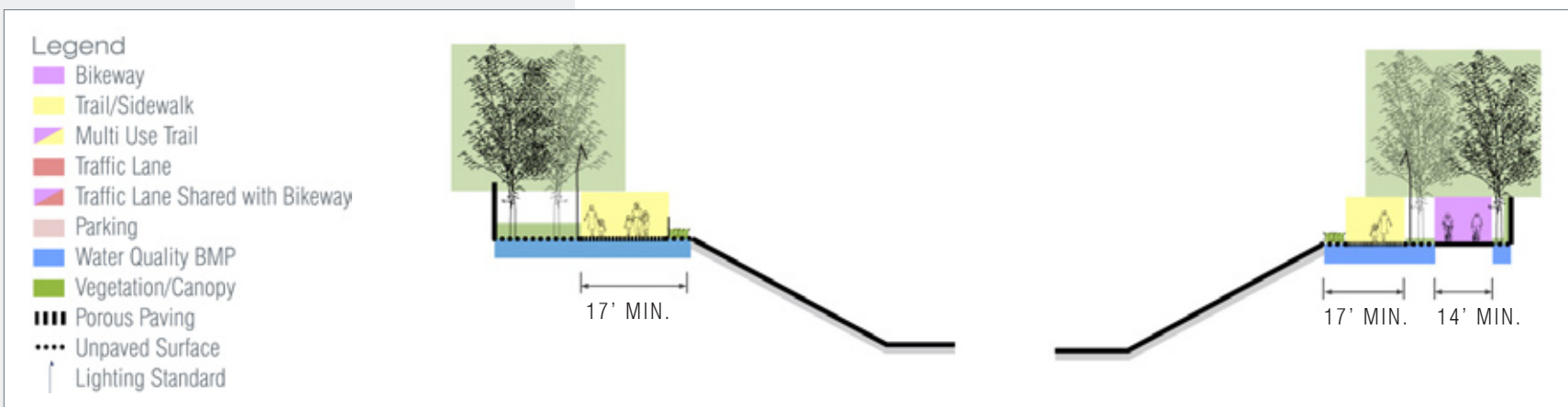
### Guidelines:

- The bikeway should be designed to reduce the flow of untreated stormwater runoff into the River through appropriate BMP's.
- Where separate bike and pedestrian trails occur, locate the pedestrian path next to the River, and construct using permeable natural surfaces, such as decomposed granite.
- Color bikepath to distinguish the route and add character.
- Provide site amenities at key locations including site furniture and water fountains.
- Provide frequent access at key locations.

- Provide wayfinding and interpretive signage.
- Provide lighting and security.
- Refer to the Los Angeles County Master Plan: Landscaping Guidelines and Plant Palettes for specific guidance.
- All circulation and spaces will be ADA-compliant regarding maximum grades and surfacing materials.

### Where to apply the element:

- Select priority areas that would serve to connect existing completed segments of the bike path
- Locate priority areas where grade-separated underpasses can be built
- Establish connections to major destinations, other bike paths, and public transportation
- Negotiate joint use for portions of the right-of-way that have been encroached on by other users



Ernie's Walk along the Los Angeles River near Kester Avenue. (2006)

## GOAL: CREATE A CONTINUOUS RIVER GREENWAY RIVER PROMENADES

In more urban locations along the River Corridor, River Promenades with amenities and features, such as significant public art, parallel trails, and room for riverside concessions, should be established. Depending on adjacent conditions and desires, River Promenades can become enhanced linear parks, or take on more civic and urban qualities. They should make the most of adjacent natural features, vistas, and local opportunities to define their content and character.

### Guidelines:

- The River bike path and recreation pedestrian trail must be incorporated within the Promenades.
- Recreational and multi-use trails should front the River.
- Belvederes and other amenities should encourage people to spend time next to the River.
- Bikepath and recreational trails could be separated to reduce conflicts.
- Contextual public art could be used to add character and highlight ecology and cultural history.



Visualization of a River Promenade at the River Glen Opportunity Area

- Expand native landscaped areas with native plants along the length of the promenade to maintain a continuous functional wildlife habitat within the corridor.
- Integrate promenades with commercial areas, civic institutions, and residential neighborhoods.
- Celebrate local character, geography and vistas.
- Consider the potential for event programming such as farmers' markets, art fairs or performances.
- Refer to Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for detailed guidance.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

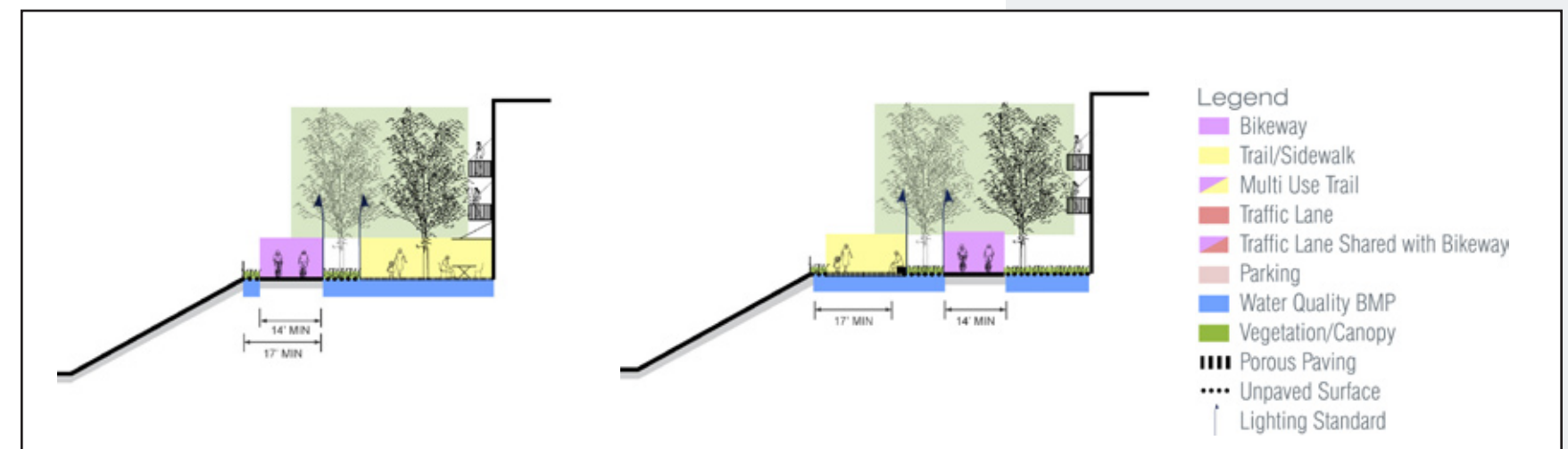
- Where wider right-of-ways exist, use available land. Where narrow right-of-ways exist, consider acquisition
- Locate next to high-traffic areas, including high-density developments, commercial areas (possibly facing the River), public institutions, and Metro stops
- Locate facing new development where the River Greenway and new structures complement the urban environment
- Locate as River frontage for new and existing River parks

## RIVER PROMENADE

- Includes urban elements such as plazas, belvederes or overlooks, and public gathering spaces, such as cafes, appropriate for more urban and populated settings.

## POTENTIAL RIVER PROMENADE PROJECTS

- Canoga Park
- Reseda Park
- Weddington Park
- Spreading Grounds
- 134 Freeway to Colorado Avenue
- North Atwater Walk
- Taylor Yard River
- Chinatown/Cornfield Opportunity Area River
- Downtown Industrial Opportunity Area River



GOAL: CREATE A CONTINUOUS RIVER GREENWAY

## RIVERSIDE STREETS

Existing or new streets that run parallel to the River, with buildings facing the River, can strengthen and enhance the River Greenway. The right-of-ways potentially could be reconfigured on existing adjacent parallel streets to augment the Greenway. With future development, small streets fronting the River could become active spaces with commercial frontage and civic amenities that open onto the River, and activate the River's edge thereby increasing public safety for pedestrian and bicycle traffic.

Guidelines:

- Use street rights-of-way to enhance the experience of the River and the Greenway.
- Create an active street edge facing the River Greenway including commercial, residential, and civic frontage.
- Reduce or eliminate existing landscape screens (i.e. high hedges). Create intimate Riverside streets with two lanes of traffic and traffic-calming measures.
- Provide additional amenities within and adjacent to Riverside Streets
- Utilize River adjacent parking lanes to expand the River Greenway.

## RIVERSIDE STREETS

- Streets that run parallel to the River, that can allow an experience of the River from a car or other vehicle.

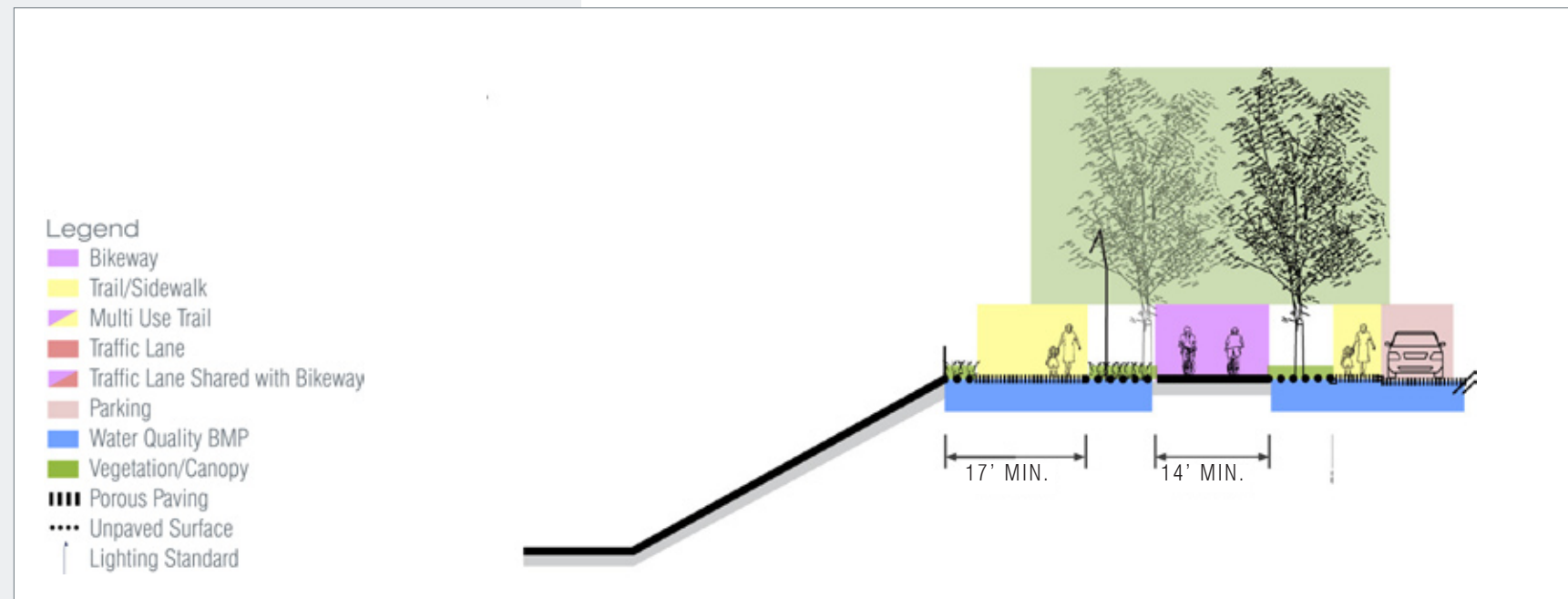
## POTENTIAL RIVERSIDE STREETS PROJECTS:

- Basset Street
- Valleyheart (Cedros to Sepulveda)
- Valleyheart (Sepulveda to Kester)
- Valleyheart (Hazeltine to Woodman)
- Valleyheart (Fulton to Coldwater Canyon)
- Valleyheart (Whitsett to Radford)
- River Glen Opportunity Area
- Chinatown/Cornfield Opportunity Area

- Refer to the Los Angeles County Master Plan: Landscaping Guidelines and Plant Palettes for specific guidance.
- Ensure that circulation and spaces are ADA-compliant.

Where to apply the element:

- At existing River-adjacent streets
- Use at redevelopment or at new development, with commercial or residential areas fronting the River
- Use in areas with serious safety issues that would benefit from increased public activity
- Use at streets and alleys that could be vacated and converted to open space
- Use in areas with minimal wildlife habitat value
- Use at streets that provide bicycle and pedestrian connectivity to the transportation network



Proposed Riverside Street treatment

## GOAL: CREATE A CONTINUOUS RIVER GREENWAY GRADE-SEPARATED CROSSINGS

Grade-separated undercrossings or overpasses should be provided at every vehicle and railway bridge. While the Los Angeles River and Bridge Access Report recommends grade-separated crossings, other solutions will be needed for areas where these are not feasible (City of Los Angeles, DPW 2002). Appropriate undercrossing typologies for the rectangular channel portion of the River in the San Fernando Valley should be studied further.

All crossings should be wide enough to accommodate pedestrians, bicyclists, and in certain cases, equestrians on parallel trails. Public art and lighting should be used to illuminate dark undersides. Blind corners or “gauntlet scenarios” should be avoided.

### Guidelines:

- Light underpasses for safety and winter commuting.
- Include wayfinding signage indicating overhead streets.



Future underpass at Balboa Boulevard

- Accommodate both pedestrians and bicyclists on discrete parallel paths where possible.
- Enhance crossings with public art and decorative elements.
- Minimize blind curves or “gauntlet scenarios.”
- Place grade-separated crossings above appropriate flood levels.
- Require all River Bridge improvements and construction to include or accommodate a grade-separated crossing on both sides of the River.
- Refer to Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for detailed guidance and CALTRANS Highway Design Manual (HDM), California 2006 Manual on Uniform Traffic Control Device (MUTCD), 2003 MUTCD standards for bike paths.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

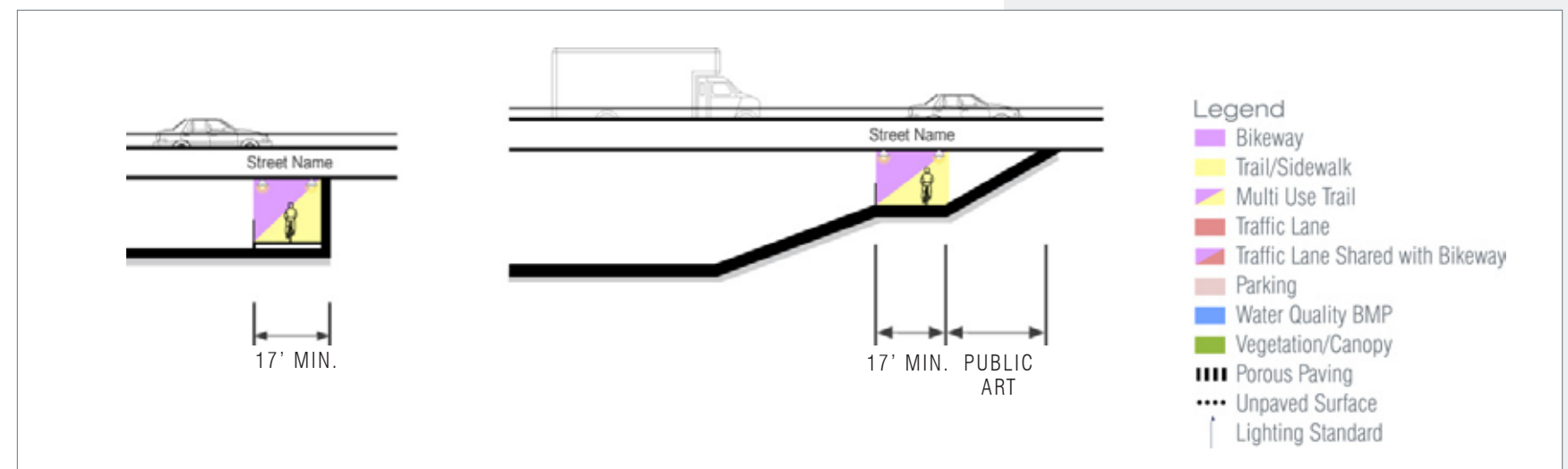
- On both sides of the River right-of-way throughout the 32 miles
- Connecting major destinations
- To create connections between park-poor areas, River-adjacent parks, and gateways
- Connecting to existing bike paths
- At crossings where at-grade crossing is difficult or impossible

## GRADE-SEPARATED CROSSINGS

- An underpass or overpass that allows the continuity of the Greenway to be maintained, and does not require the user to make an at-grade crossing of an arterial cross street.

## POTENTIAL GRADE-SEPARATED CROSSING PROJECTS:

- Orange Line Bridge
- 405 Freeway
- Laurel Canyon Boulevard
- CBS Studio
- 101 Freeway at Weddington Park
- 134 at Spreading Grounds
- Riverside Driver by 110 Freeway
- Railroad Bridge
- 110 at Arroyo Seco
- Railroad Bridge
- Broadway Bridge



## RECOMMENDATIONS

### Recommendation #5.4:

Provide green arterial connections to the River. Where suitable, landscaped areas should be designed to meet upland habitat requirements.

### Recommendation #5.5:

Create safe non-motorized routes between the River and cultural institutions, parks, civic institutions, transit-oriented development, schools, transit hubs, and commercial and employment centers within 1 mile of the River.

### Recommendation #5.6:

Increase direct physical and visual access to the River.

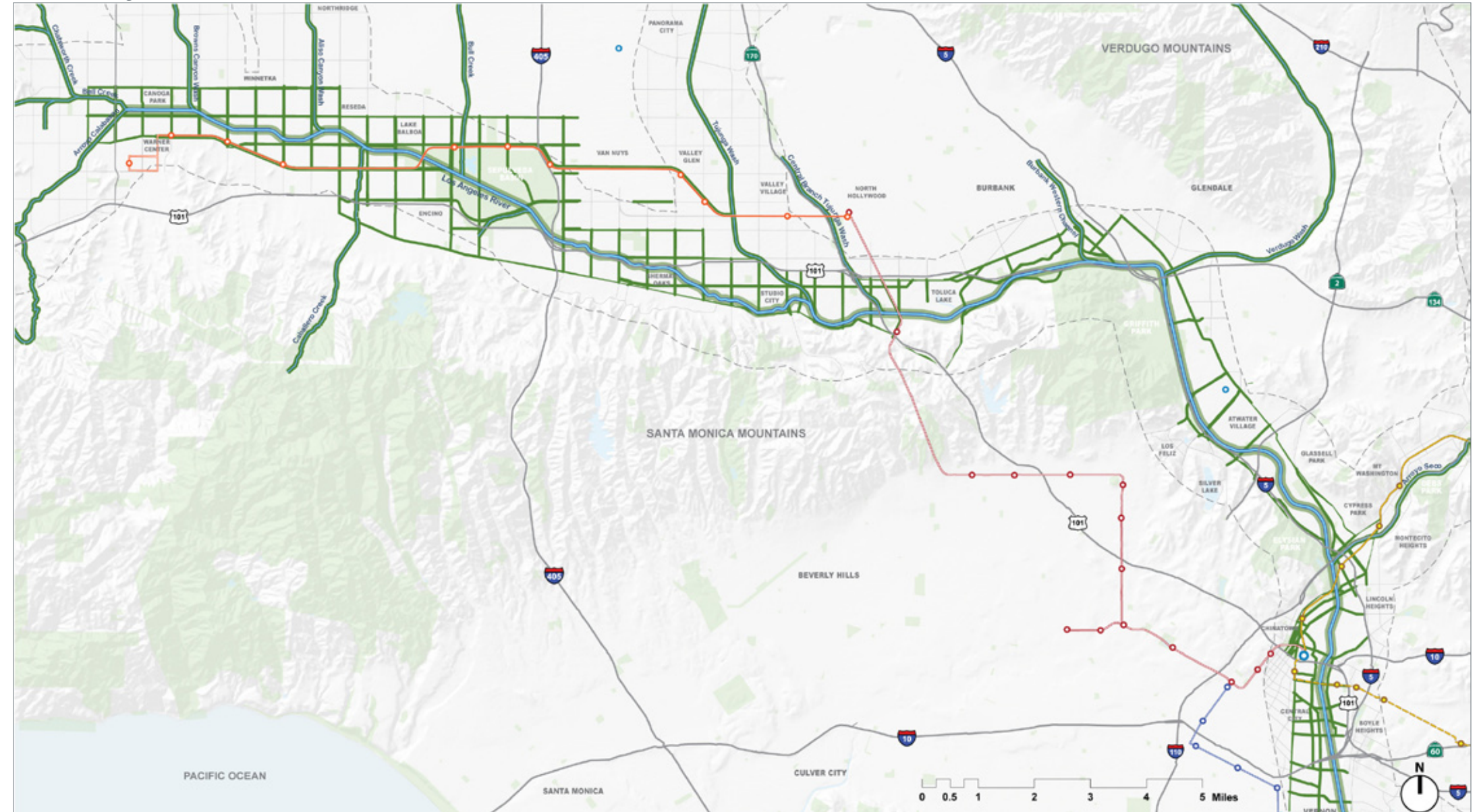
## PROTOTYPICAL ELEMENTS AND THEIR USE

Several building blocks can be used to create a Green Streets system. These include:

- Arterial Green Streets;
- Primary Local Green Streets;
- Local Green Streets;
- Neighborhood Walking Loops;
- Industrial Green Streets;
- Enhanced Intersections;
- Paseos; and
- Equestrian Loops.

Key design features for these elements, and guidelines concerning where to apply them are described in the next section.

### Connect Neighborhoods to the River



An interconnected system of Green Streets, Walking Loops and Equestrian Loops is proposed to connect neighboring communities along the entire River Corridor.

## GOAL: CONNECT NEIGHBORHOODS TO THE RIVER

### THE CHALLENGE

More than 70 percent of Los Angeles residents lack safe, walkable access to parks or other green space within one-quarter mile of home. Residents must be able to access the Greenway safely and conveniently from their homes, workplaces, and schools. By improving non-motorized circulation, the River Corridor can provide a new and safe means of commuter travel.

Many U.S. cities have employed “green streets” programs that transform arterial, connector, and local streets into safe, easily identified green connections that serve both motorized and non-motorized users. Existing streets designated as “green streets” feature traffic calming measures to slow speeds, intersection improvements to provide safer bicycle and pedestrian crossings and facilitate pedestrian access, wider sidewalks to promote cafe culture, and water quality features that treat stormwater runoff. Portland, Oregon, Denver, Colorado and Chicago, Illinois are among the major cities that have created a green streets program.

Not all streets in the River Corridor are recommended to become green-streets. Such designation is typically reserved for streets that provide major neighborhood connections to an amenity like the River, or that connect major destinations, such as schools, transit hubs, or employment centers, to significant natural resources. In most cities, Green Street improvements are folded into a public works capital repair program, so that construction of these improvements are completed as a street is designated for resurfacing or other major reconstruction.

A Los Angeles River Green Streets initiative would provide ways for residents to reconnect with the River, and would complement important parallel greening initiatives, including the Mayor’s Million Trees Initiative.

### RECOMMENDATIONS

**Recommendation #5.4:** Provide Green Arterial and Local Street connections to the River. Where suitable, landscaped areas should be designed to meet upland habitat requirements.

The green system will extend into the City laterally, linking the River to the City. Green Arterial Streets should be retrofitted to include bike lanes, BMP’s and enhanced pedestrian amenities. New street sections should be considered that create safer connections and more sustainable environments.

To extend ecosystem restoration beyond the River Corridor, requirements for establishing upland habitat should be incorporated into the design of landscape buffers, median strips, and tree lawns.

**Recommendation #5.5:** Create safe non-motorized routes between the River and cultural institutions, parks, civic institutions, transit-oriented development, schools, transit hubs, and commercial and employment centers within 1 mile of the River.

Building on the County Master Plan, this Revitalization Master Plan encourages connections that should be made between the River and existing cultural institutions, parks, civic institutions, transit-oriented housing, schools, transit hubs, and commercial and employment centers. For instance, low cost (“transit to trail”) shuttles could connect neighborhoods with revitalized River features. The potential of extending the River’s cultural significance is especially evident in the Griffith Park area, with potential connections to Travel Town, the Los Angeles Zoo, and the Gene Autry Museum.

All cross-connections between the community and the River should ensure safe accommodations of multiple modes, including motorized traffic, rail transit, pedestrians, and equestrians per acceptable design standards.

**Recommendation #5.6:** Increase direct pedestrian and visual access to the River.

Visual access to the River can be improved by using an identifiable plant palette for green streets, or by preserving and enhancing critical view corridors. Studies should determine strategic areas where the River might be improved to enhance view corridors.

### CONCURRENT PLANNING EFFORTS

- The County Master Plan encouraged connections to the River from schools, parks, workplaces, and “public gathering locations” located within one mile of the River. It also recommends that as trails are developed and improved, they should be connected to parks and community facilities in adjacent neighborhoods through streetscape and signage improvements that lead to the River.
- The Trust for Public Land (TPL) Urban Greenway program, developed by the Mountains Conservancy Foundation, proposed three greenways along the River.
- Metropolitan Transit Authority (Metro) has recently completed the Orange Line route. This system also includes a Class I Bike path that connects Canoga Park, both along the River and through the Sepulveda Basin, to Burbank.
- North East Trees has studied the systematic application of green-streets and their integration with street-end parks to serve water quality goals and beautification. They propose routing residential stormwater into biofiltration swales located in modified existing parkways. The parkways then terminate into street-end parks that further detain and infiltrate runoff.

## ARTERIAL GREEN STREETS

- Major connectors that incorporate safe connections for cyclists and pedestrians, water quality features, functioning habitat where appropriate, and identity elements.

## POTENTIAL ARTERIAL GREEN STREETS PROJECTS

- Canoga Avenue
- DeSoto Avenue
- Winnetka Avenue
- Reseda Boulevard
- Sepulveda Boulevard
- Van Nuys Boulevard
- Laurel Canyon Boulevard
- Lankershim Boulevard
- Los Feliz Boulevard
- Fletcher Drive
- Broadway
- 1st Street
- 4th Street

### GOAL: CONNECT NEIGHBORHOODS TO THE RIVER

## ARTERIAL GREEN STREETS

Arterial Green Streets should be a prominent feature in the River Corridor. They can provide safe connections to the River for bicyclists and pedestrians. These would also include integrated stormwater management, use of drought-tolerant, native streetscape plantings, themed street furniture, and public art identifying the street's connection with the River.

Because of the amount of vehicular traffic often found on Arterial Green Streets, it will be often challenging to improve access and use for cyclists and pedestrians. However, due to the critical linkages these streets can provide, and the profound effect they will have in defining the River Corridor, future planning efforts should identify ways to improve access for non-motorized users. Unless an alternative comprehensive bike path network is created, these streets are the primary means by which non-motorized users will travel between local and regional destinations and the River. Arterial Green Streets will ensure that these trips are safe and comfortable enough to encourage daily use.

### Guidelines:

- Include bike paths and enhanced pedestrian facilities.
- Include water quality improvements, such as porous parking strips, bulb-outs, and infiltration and biofiltration planting strips, to be studied by the City's Street Standards Committee.
- Create continuous shade along the street, with trees spaced every 20 to 25 feet.
- Consolidate existing utilities, and place powerlines underground.

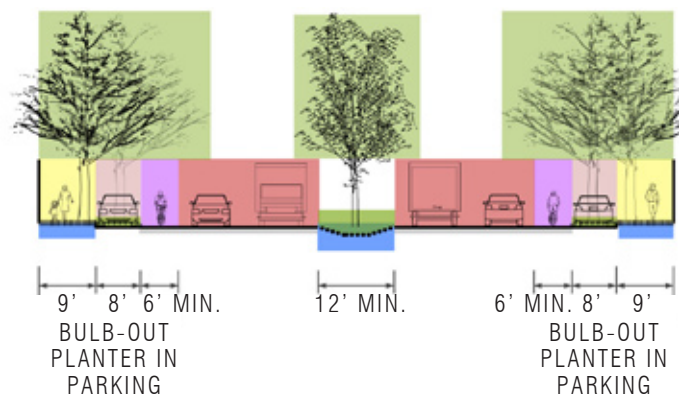
- Include amenities, such as furniture, lighting, vegetation, signage, paving, and public art to connect the street to the River.
- If bikeway facilities cannot be accommodated on the Arterial Green Street, create an alternative route on nearby local streets.
- Incorporate traffic-calming measures.
- Adapt Arterial Green Street designs to the different prototypical street widths within the City.
- Create off-street parking areas to remove on-street parking and create room for non-motorized transportation facilities.
- Work within the City to redefine standard street types and sections.
- Refer to the County Master Plan Landscaping Master Landscaping Guidelines and Plant Palettes for specific guidance.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

- Every arterial street that intersects the River
- On streets that connect to major destinations and other non-motorized transportation routes
- On River Corridor arterial streets scheduled for renovation or improvements
- Connecting to existing but incomplete bikeway networks

**Legend**

- Bikeway
- Trail/Sidewalk
- Multi Use Trail
- Traffic Lane
- Traffic Lane Shared with Bikeway
- Parking
- Water Quality BMP
- Vegetation/Canopy
- Porous Paving
- Unpaved Surface
- Lighting Standard



Montage of Arterial Green Street design that includes native plant species, in the Taylor Yard Opportunity Area

GOAL: CONNECT NEIGHBORHOODS TO THE RIVER  
**PRIMARY LOCAL GREEN STREETS**

Primary Local Green Streets are non-arterial streets that can provide neighborhood access to the River. They often offer safer access for non-motorized users than the arterials due to reduced vehicle speed and volumes, and should be considered important River accessways. Primary Local Green Streets differ from Local Green Streets in that they are often situated between major access points, and provide important connections to local destinations, such as schools, employment centers, and public transportation nodes.

Because of their important role as connectors, bike paths and wider sidewalks should be accommodated as these existing streets are repaired or retrofitted. Guidelines also call for integrated stormwater management elements, native streetscape plantings, and themed street furniture.



Proposed improvements to a Primary Local Green Street

Guidelines:

- Include bike lanes and enhanced pedestrian facilities.
- Include water quality improvements, such as porous parking strips, bulb-outs, and infiltration and biofiltration planting strips, to be studied by the City's Street Standards Committee.
- Create continuous shade along the street, with trees spaced every 20 to 25 feet.
- Include elements such as distinctive furniture, lighting, vegetation, signage, paving, and public art to connect the street to the River.
- Place local gateways and nonvehicular bridges where streets meet the River.
- Adapt Primary Local Green Street designs to the different prototypical street widths within the City.
- Refer to Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for detailed guidance.
- All circulation and spaces will be ADA-compliant regarding maximum grades and surfacing materials.

Where to apply the element:

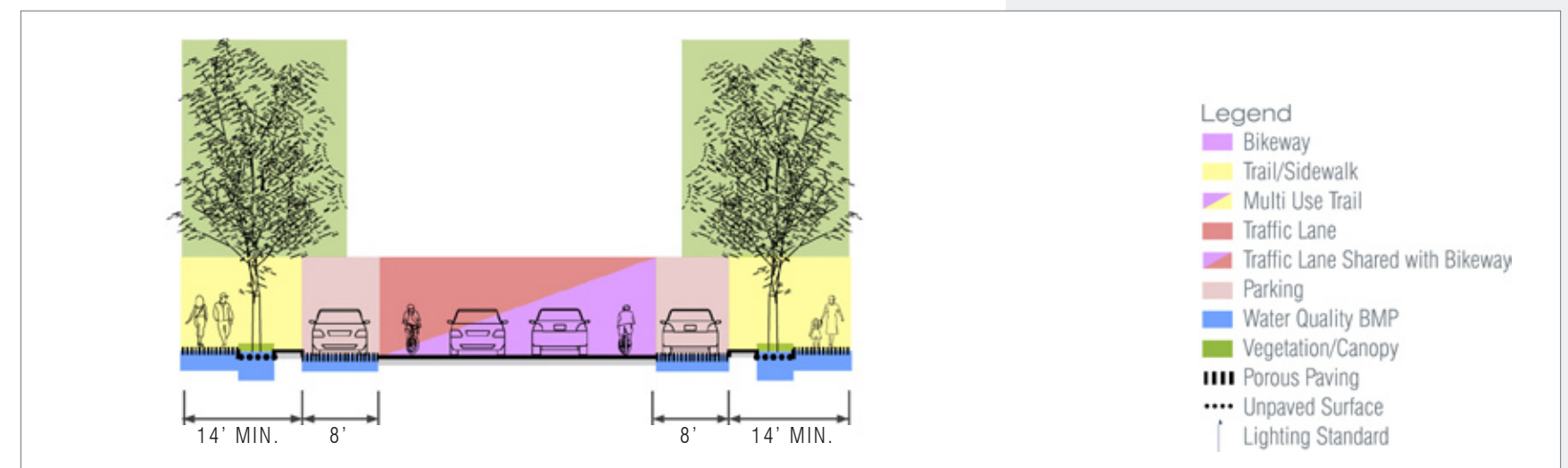
- Local streets intersecting the River
- Local streets with freeway underpasses and/or exceptional access to surrounding neighborhoods
- Local streets that connect with major destinations

**PRIMARY LOCAL GREEN STREETS**

- Nonarterial streets that provide local access points to the River for bicyclists and pedestrians.

**POTENTIAL PRIMARY LOCAL GREEN STREETS PROJECTS**

- Variel Avenue
- Vanalden Avenue
- Wilbur Avenue (Sherman Way to Orange Line)
- Amigo Avenue
- Etiwanda Avenue
- Laurel Grove Avenue
- South Mariposa Avenue
- Goodwin Avenue
- Silver Lake Boulevard
- Dorris Place
- Commercial Street
- Industrial Street & Jesse Street
- Bay Street & Sacramento Street



## SECONDARY LOCAL GREEN STREETS

- Streets that contribute to establishing a distinct River identity and character, but are not primary connectors.

## POTENTIAL SECONDARY LOCAL GREEN STREETS PROJECTS

- As local streets within the River Corridor undergo improvements

### GOAL: CONNECT NEIGHBORHOODS TO THE RIVER

## SECONDARY LOCAL GREEN STREETS

Secondary Local Green Streets are nonarterial streets that can serve to improve the character and water quality of streets within the River Corridor, but serve only as a local connector to the River. These residential streets will serve as access points through existing neighborhoods. They are tree lined and may have some public amenities.

North East Trees has studied the systematic application of green streets in Elysian Valley. Since 80 percent of residential stormwater runoff sheets off concrete driveways, North East trees proposes routing water into biofiltration swales located in modified existing parkways. The parkways then terminate into street-end parks that further detain and infiltrate runoff. These street-end parks then act as local gateways to the River.

A similar systematic and integrated approach to multi-objective planning can be applied to the River's many adjacent residential streets.

### Guidelines:

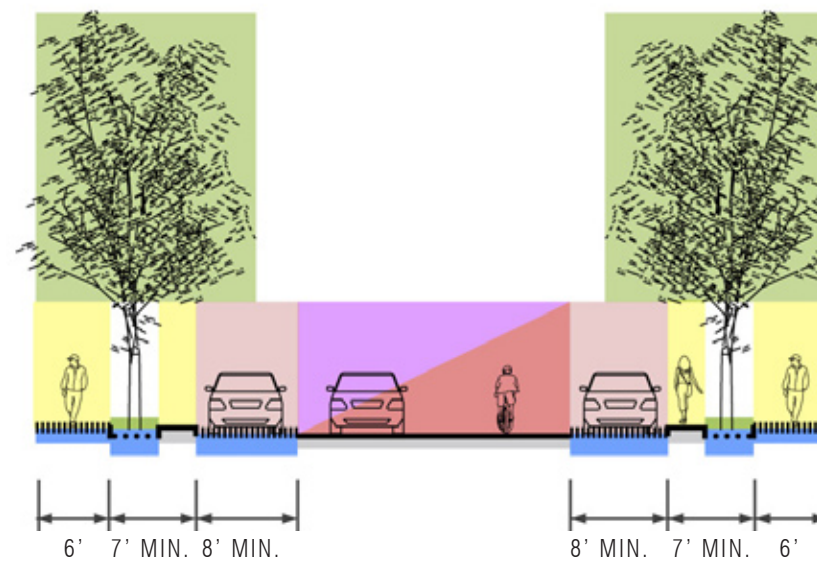
- Include some water quality improvements, such as porous parking strips, bulb-outs, and infiltration and biofiltration planting strips, to be studied by the City's Street Standards Committee.
- Route to street-end parks for detention and/or infiltration.
- Create continuous shade along streets with trees spaced every 20 to 25 feet and by placing utility lines underground.
- Refer to Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for detailed guidance.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

- Neighborhood Streets anticipated to become River access points
- Neighborhood streets with parks
- Neighborhood streets with direct water flow into the River
- Local streets within the River Corridor



Local Green Street improvements include an improved pedestrian environment and vegetated bioswales to treat street runoff before being released into the River.



#### Legend

- Bikeway
- Trail/Sidewalk
- Multi Use Trail
- Traffic Lane
- Traffic Lane Shared with Bikeway
- Parking
- Water Quality BMP
- Vegetation/Canopy
- Porous Paving
- Unpaved Surface
- Lighting Standard

## GOAL: CONNECT NEIGHBORHOODS TO THE RIVER NEIGHBORHOOD WALKING LOOPS

Neighborhood Walking Loops will be routes that individuals and families can follow along the River. Walking Loops are important for promoting fitness and can also define the local character of the River's diverse neighborhoods and communities. The Loops will emerge along the River, as communities and neighborhoods engage in planning and improving their local River reaches. Typically 2-4 miles in total length, the location of crossings would depend on land use, infrastructure, and community needs. These Loops will therefore define the local character of a section of the River and might include public art, interpretive signage, and other features. Grade-separated crossings on both sides of the River will be necessary to create a continuous and enjoyable loop.

### Guidelines:

- Use Walking Loops as a catalyst to build grade-separated crossings.
- Walking Loops should average two miles in length.
- Incorporate fitness elements within Loops to encourage exercise.
- Create Loops that give a distinctive character to discrete sections of the River with public art and signature amenities.
- Seek investment and involvement from the local community, including businesses and schools.
- Establish a Loop identity with environmental graphics and wayfinding.

- Refer to the Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for specific guidance.
- All circulation and spaces will be ADA-compliant regarding maximum grades and surfacing materials.

### Where to apply the element:

- Loop ends located at non-motorized bridges and other safe crossings
- Between difficult obstacles, such as tributaries, that cannot be easily crossed at-grade or grade-separated
- In conjunction with grade-separated crossings and River trail improvements
- Within a distinct cultural or geographical area, including neighborhoods, historical areas, parks, and newly recognized districts
- Linked to or included as a distinctive local feature of the River or adjacent areas
- In areas lacking recreational opportunities
- Where grade-separated crossings exist on both sides of the River

## NEIGHBORHOOD WALKING LOOPS

- Loop circuits of approximately two-to-four miles that help that help to establish River identity through different segments, while providing a readily-navigable walking or biking experience.

## POTENTIAL NEIGHBORHOOD WALKING LOOP PROJECTS:

- Mission Yard River Loop
- 1st to 6th Street River Loop
- Many more could be developed on a neighborhood-by-neighborhood basis



This map depicts potential Walking Loop configurations using existing River crossings.



Existing Recreational loop around Balboa Lake (2005)



The Echo Park promenade has become a popular strolling and exercise system for adjacent communities. (2006)

## INDUSTRIAL GREEN STREET

- Accommodate both safe industrial uses and recreational access to the River Corridor.

## POTENTIAL INDUSTRIAL GREEN STREETS PROJECTS

- Doran Street
- Brazil Street
- Electronics Street
- East 3rd Street
- East 6th Street
- South Mission Street

### GOAL: CONNECT NEIGHBORHOODS TO THE RIVER

## INDUSTRIAL GREEN STREETS

Industrial Green Streets should be improved streets within the River Corridor that provide safe and comfortable bike/pedestrian access through existing and proposed industrial areas. These areas and adjacent neighborhoods can greatly benefit from improved association with the River.

Sidewalks with appropriate tree protection measures can also shade and beautify portions of these zones. In appropriate locations, tree wells and street-ends may incorporate water quality BMP's to mitigate direct runoff and can become Gateways.

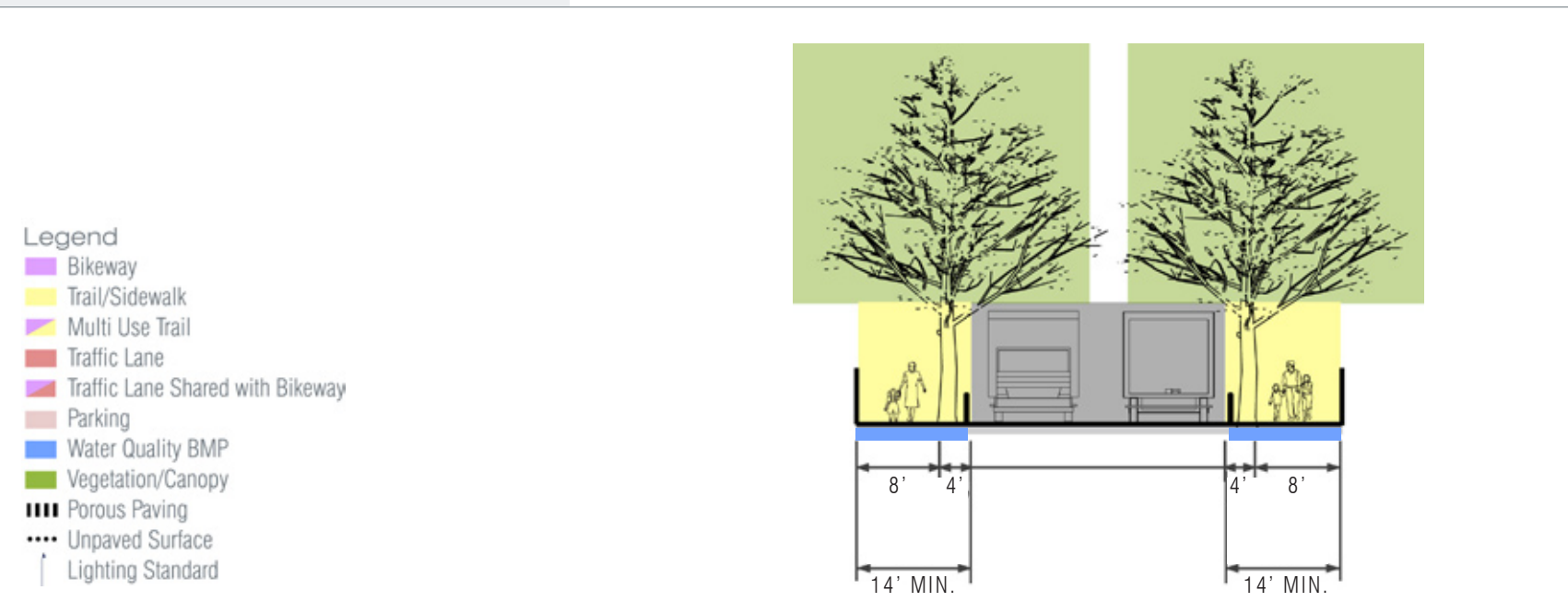
Signage and wayfinding systems can help Greenway users to access the River through industrial tracts, with expanded sidewalks that could be designed to allow non-motorized access.

### Guidelines:

- Improve streets to allow safe River access by non-motorized users
- Add access points at River
- Add trees and vegetation
- Add water quality BMP's
- Add signage and wayfinding elements.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to Use:

- Streets in industrial areas within the River Corridor
- Streets that connect directly to the River
- Streets that connect to major destinations, transit hubs, and schools



An improved Industrial Green Street with street trees and vehicle and pedestrian circulation

## GOAL: CONNECT NEIGHBORHOODS TO THE RIVER

## ENHANCED INTERSECTIONS

Enhanced Intersections offer safe and aesthetic crossing and access to the River Greenway for vehicles and non-motorized users. These Enhanced Intersections will occur within the River Corridor at arterial intersections and at bridges. Enhanced Intersections should celebrate the River as it flows through the City. The ground plane and crosswalks can have premium materials such as colored asphalt and concrete with patterns and texture. Wayfinding signage, including maps and directional markers, can introduce and guide users to the River Greenway System. Public art and environmental graphics may be installed to create new landmarks and River related spaces. Site utilities can be similarly iconic and aesthetic. For example, unique lighting and traffic signals can announce the presence of the River Greenway

Transportation authorities should consider alternative signaling systems. Smart crosswalks and scatterwalks can allow alternative crossing patterns and access to the River.



An Enhanced Intersection creates a safer pedestrian environment

## Guidelines:

- Include traffic-calming measures such as lighting, bicycle-signal systems and improved signage.
- Employ crossing refuges, enhanced crosswalks, and pedestrian signals.
- Incorporate premium and graphic surfaces at intersections.
- Include amenities such as distinctive site furniture, lighting, vegetation, signage, and paving.
- Incorporate public art.
- Provide premium utilities such as custom lighting standards.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

## Where to apply the element:

- At busy intersections, along heavily used streets
- At freeway on-ramps and off-ramps in the River Corridor
- At intersections connecting to major destinations, schools, and transit hubs
- On an improved River Green Street
- Any arterial intersections near the River
- At signalized bridges



An Enhanced Intersection with patterned concrete along the 3rd Street Promenade in Santa Monica. (2006)

## ENHANCED INTERSECTION

- Intersections that support safe connections to the River with traffic-calming measures, special paving, bulb-outs, and/or other features.

## POTENTIAL ENHANCED INTERSECTION PROJECTS

- Tampa Avenue and Victory Boulevard
- White Oak Avenue and Victory Boulevard
- Ventura Boulevard and Coldwater Canyon Boulevard
- Ventura Boulevard and Laurel Canyon Boulevard
- Lankershim Boulevard and Cahuenga Boulevard
- Doran Street and San Fernando Road
- Brazil Street and San Fernando Road
- Fletcher Avenue and San Fernando Road
- Fletcher Avenue and on/off ramp to the 2 Freeway
- San Fernando Road and Elm Street (at Taylor Yard)

## PASEOS

- Intimate, non-motorized passageways through existing or new developments that are characterized by differing scale and materials.

## POTENTIAL PASEO PROJECTS

- West end of Brazil Street
- West end of Electronics Street
- West end of Edward Way
- West end of Media Center Drive
- Blimp Street
- East end of Dorris Place
- Link between Hollenbeck Park and Inez Street

## GOAL: CONNECT NEIGHBORHOODS TO THE RIVER

### PASEOS

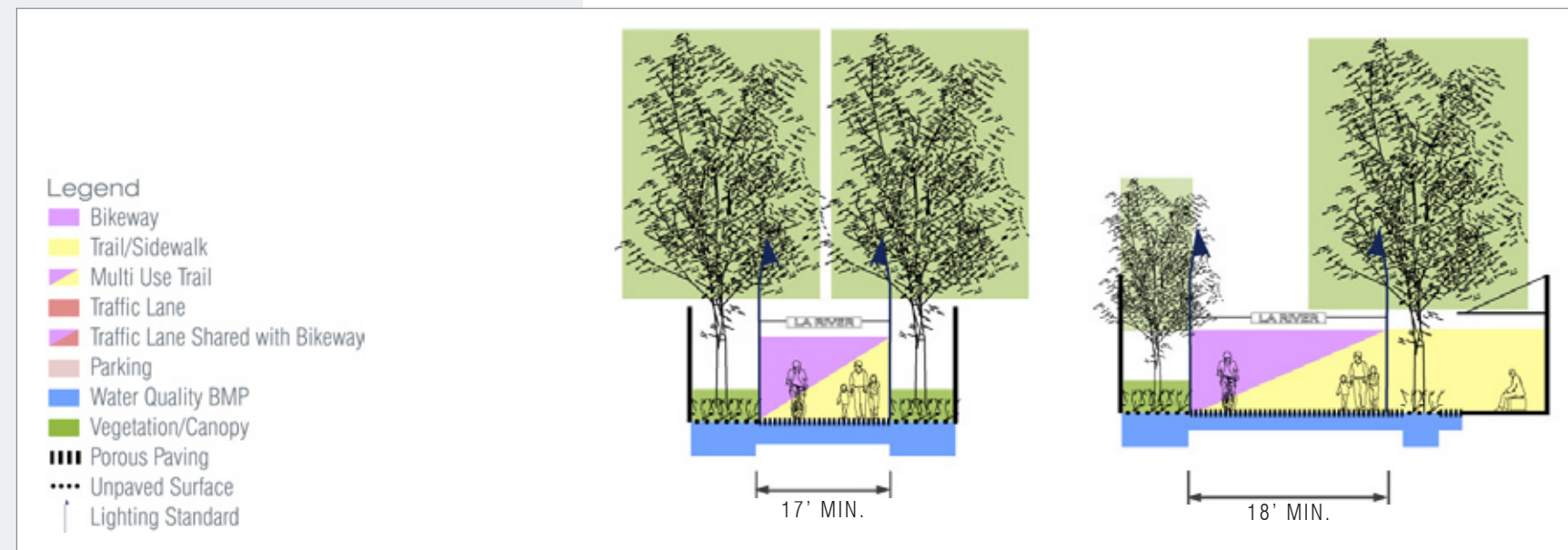
Paseos create intimate pedestrian and bicycle thoroughfares for new and existing developments. They can provide a concise and elegant route to the River within River-adjacent developments. Planted areas on both sides buffer the Paseos from adjacent land uses. Best management practices may be employed throughout, to improve water quality. In many cases, Paseos also serve as required fire lanes and service access.

#### Guidelines:

- Include pedestrian and bicycle facilities where possible.
- Include elements such as distinctive furniture, lighting, vegetation, signage, paving, and public art to create a connection to the River.
- Include extensive water quality improvements, including infiltration planters, porous paving, rain gardens and cisterns.
- Incorporate multiple uses, such as a fire lane, emergency vehicle access, flood channel maintenance and other service access.
- Coordinate with new Portals, so that the Paseos can create access to Portals.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

#### Where to apply the element:

- At new and existing private and public developments without public River access every 400 feet
- As access to major destinations
- Where fire lanes are required
- Where service lanes are required
- At vacated streets and alleys



Paseos create intimate pedestrian and bicycle thoroughfares with direct access to the River

GOAL: CONNECT NEIGHBORHOODS TO THE RIVER  
**EQUESTRIAN LOOPS**

Equestrian loops are riding circuits in areas adjacent to equestrian facilities. Ideally they should provide for easy trailhead access, especially for riders who may be trailering horses. Loops should be designated as equestrian-only trails. If placed within a corridor that will serve multiple user types (including pedestrians or cyclists), a parallel system should be provided with a minimum separation of 5 feet between equestrian trails and those serving bicycles.

Guidelines:

- Install signal crossing buttons, signage, and other elements at heights suitable for equestrian users.
- Maintain 10 foot height clearance for equestrian users.
- Maintain a minimum of 5 foot spacing buffer containing a low fence and shrubs between equestrian and bicycle paths.
- Sight distance should be 100 feet when possible.
- Provide areas for animals to rest and water.
- Provide surface runoff treatment to mitigate the effects associated with animal waste products.

- Establish Loop identity with environmental graphics and wayfinding.
- Equestrian trails at proposed equestrian loops should have appropriate surfacing, such as dirt or decomposed granite.
- Seek investment and involvement from the local communities, including businesses and schools.
- Conduct meetings with equestrian groups at existing equestrian centers to determine the most appropriate locations for equestrian loops and regional open space access.

Where to apply the element:

- Connect Loops with existing and proposed equestrian facilities, including stables, paths, and equestrian bridges
- Connect Loops with existing and proposed parks
- Place Loops in areas that minimize conflict between equestrian and bicycle users
- Provide connections to local and regional equestrian and multi-use trail systems, such as the “Rim of the Valley Trail” and the “County Hiking and Riding Trail.”

**EQUESTRIAN LOOPS**

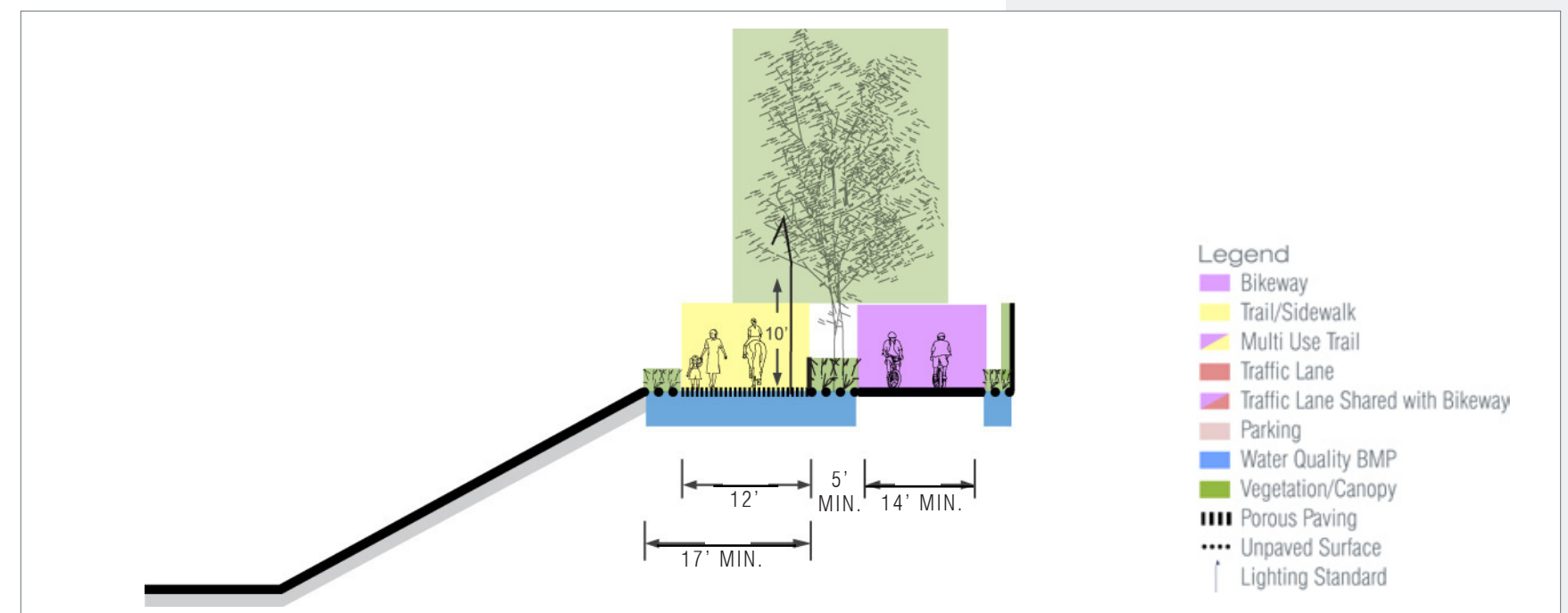
- Equestrian loops are riding circuits created in areas in and around the equestrian facilities near the River.

**POTENTIAL EQUESTRIAN LOOPS PROJECTS**

All potential projects should be coordinated with the local equestrian community to ensure trail and terrain conformity to equestrian needs.



Proposed equestrian loop through Griffith Park, Glendale and the River Glen Opportunity Area



## RECOMMENDATIONS

### Recommendation #5.7:

Increase open space throughout the River Corridor. Where suitable, landscaped areas should be designed to meet upland habitat requirements.

### Recommendation #5.8:

Provide a diverse system of interconnected parks and outdoor classrooms.

### Recommendation #5.9:

Incorporate best management practices (BMP's) in streetscapes and all public landscapes.

### Recommendation #5.10:

Identify Brownfield sites for potential open space acquisition.

### Recommendation #5.11:

Daylight historic streams that once flowed into the River.

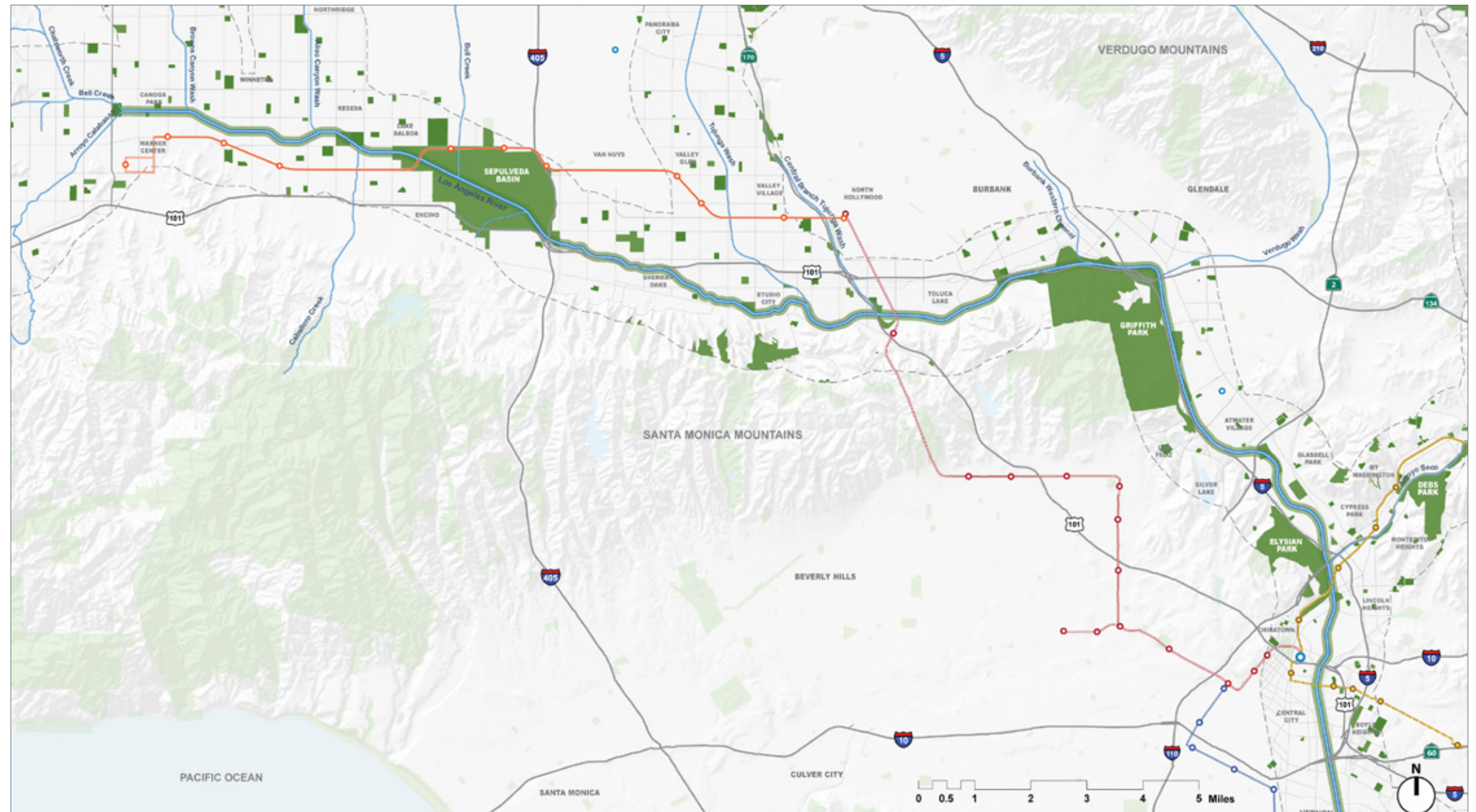
## PROTOTYPICAL ELEMENTS AND THEIR USE

Building blocks that can be used to extend open space, habitat, and water quality features into neighborhoods include:

- River Parks and recreational facilities
- River Park Buffers
- Outdoor Classrooms and Learning Centers
- Pocket Parks.

Key design features for these elements and guidelines concerning where to apply them are described in the next section.

## Extend Open Space and Water Quality Features into Neighborhoods



By adapting existing open spaces and repurposing the outdoor spaces of existing public facilities, water quality treatment and open space can become a part of all public facilities within the River Corridor

## GOAL: EXTEND OPEN SPACE AND WATER QUALITY FEATURES INTO NEIGHBORHOODS

### THE CHALLENGE

According to a 2004 Trust for Public Land (TPL) survey of the 50 largest Cities in the U.S., Los Angeles has the lowest per-capita green space. It is also below the norm in walkable access to parks. With the Los Angeles River Greenway and an accompanying network of new parks and public spaces, the City can become a greener, more beautiful place to relax and retreat.

Los Angeles is also faced with an aging stormwater infrastructure, which is in areas undersized to serve current development and focused almost solely on flood management. This Plan advocates a vision for green space that provides flood storage and landscape-based water quality treatment along the River channel, within public street rights-of-way, in public parks, on school properties, and on other civic spaces. Parks, green space, and public rights-of-way outside the River channel proper also should be incorporated into a comprehensive multi-objective stormwater management system, as described further in this chapter.

### RECOMMENDATIONS

**Recommendation #5.7:** Increase open space throughout the River Corridor. Where suitable, landscaped areas should be designed to meet upland habitat requirements.

The River Greenway should be expanded by acquiring new open space areas that, where feasible, can be restored to fulfill habitat requirements. Opportunities exist for such expansion through existing rights-of-way, powerline easements, and rail easements, and might be leveraged through joint-use and maintenance agreements. Open space opportunities also should be explored outside the River Corridor, by reclaiming and restoring underused or vacant properties and transforming them into parks or open space that connect wildlife-sustaining habitats.

**Recommendation #5.8:** Provide a diverse system of interconnected parks and outdoor classrooms.

All Pocket Parks should serve a water quality function, though this can be balanced with recreational enjoyment. Ten schools are located within one quarter-mile of the River and

additional schools may be located near the River in the future. This offers the potential to create a system of jointly used Parks and Outdoor Classrooms that would provide students and the schools with spaces for ecological classwork and fieldwork such as water quality monitoring, and would lay the groundwork for instilling environmental ethics.

**Recommendation #5.9:** Incorporate best management practices (BMP's) in streetscapes and all public landscapes.

Existing roadways, new streetscapes and all public landscapes should incorporate a variety of BMP's, such as water quality treatment, and permeable surfaces that can help reduce pollutant loading and encourage infiltration where soils are suitable. Other cities, including Portland and Chicago, have undertaken similar efforts, resulting in cleaner and greener communities that improve environmental function, economic value, and quality of life.

**Recommendation #5.10:** Identify Brownfield sites for potential open space acquisition.

Due to its industrial history, the River Corridor includes many sites which are listed as brownfields. Where possible, new development and open space should occur on brownfield sites. These sites offer opportunities for in-situ remediation, environmental education, and site healing, in the creation of open space. Recent precedents for brownfield acquisition and conversion to open space include the Los Angeles State Historic Park (The Cornfields) and the Rio de Los Angeles State Park (at Taylor Yard).

**Recommendation #5.11:** Daylight historic streams that once flowed into the River.

Many streams that once connected to the River have been encased in underground culverts. This Plan suggests a comprehensive inventory of historic streams and an assessment of the feasibility of stream daylighting and restoration. The plans for North Atwater Park offer an example of a daylighted stream, and the potential for improved habitat and landscape treatment of urban stormwater runoff.

### CONCURRENT PLANNING EFFORTS

- A number of pocket parks (for example Marsh Park and Steelhead Park) in Elysian Valley provide stormwater detention and infiltration and interpretive functions.
- The Regional Water Quality Control Board (RWQCB) and the County Department of Public Works have also sponsored a stenciling program for drain inlets to raise public consciousness about water quality and the connection to the River.
- The Griffith Park Master Plan working group is presently focusing on the establishment of an "Urban Wilderness Identity."
- The City of Los Angeles Department of Recreation and Parks has initiated a 5 year process to produce a citywide park master plan. This process is evaluating the long-term conditions of existing facilities and developing a community needs assessment survey.

### RIVER PARK AND RECREATIONAL FACILITIES

- Parks and recreational facilities located along and oriented toward the River.

### POTENTIAL RIVER PARK AND RECREATIONAL FACILITIES PROJECTS:

- River Origin Park
- Canoga Park River Park
- Aliso Creek Confluence Park
- Encino Velodrome Wetlands Park
- Hjelte to Dam Wetlands Park
- Castle Family Park
- Hazeltine River Edge Park
- Fashion Square River Park
- Moorpark Park
- Headworks Wetland Park
- Spreading Ground River Park
- Ferraro Fields River Park
- River Glen River Park
- Pollywog Park Renovation
- N. Atwater Park-River Vista Expansion
- Legion Lane Park
- Sunnynook River Park
- Taylor Yard Wetland Park
- Riverside Park
- Arroyo Seco Confluence Park
- Cornfields Wetland Park
- Albion Dairy Park
- Chinatown/Cornfield River Park
- Mission Yard River Park
- Downtown Industrial River Park
- 7th Street River Park
- Rio Vista Blufftop Park
- Crown River Gateway and Ecological Park

## GOAL: EXTEND OPEN SPACE AND WATER QUALITY FEATURES INTO NEIGHBORHOODS RIVER PARKS AND RECREATIONAL FACILITIES

River Parks should be designed to improve and engage the River Greenway. When possible, park land adjacent to the River should be used to widen and green the River.

Recreation facilities should respond to specific neighborhood needs and be balanced with water quality improvements and restoration of wildlife habitat. River Parks should seek to improve water quality, both by using best management practices and by treating flows from tributaries or daylighted stormwater systems.

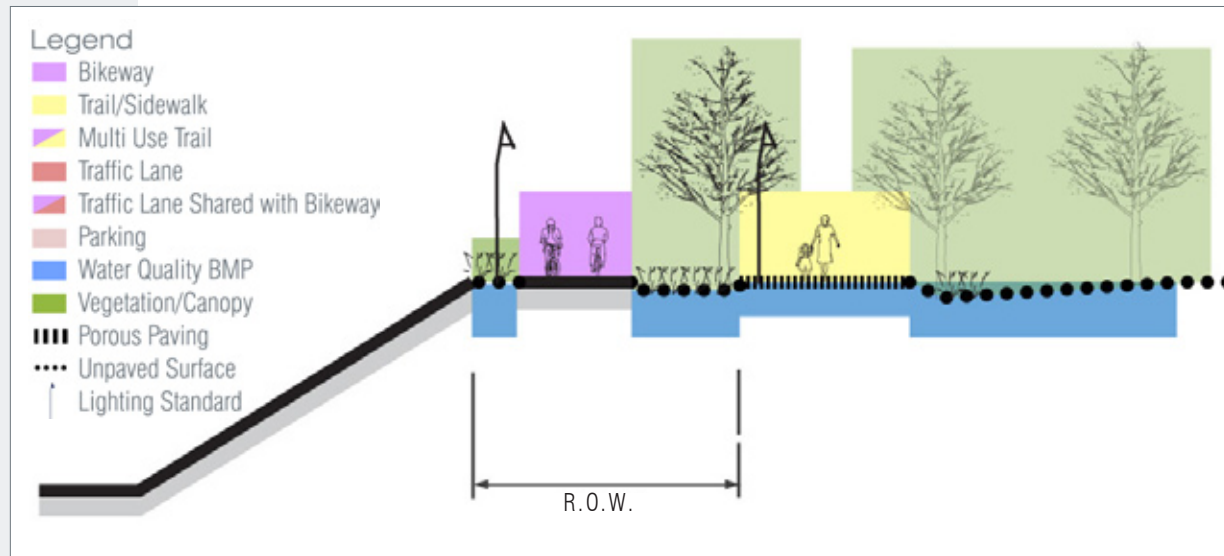
#### Guidelines:

- Maintain and enhance River Greenway trails within River Parks.
- Create enhanced River Greenway habitat with special features and native vegetation.
- Incorporate elements along the River's edge that can enhance recreation and enjoyment, improve water quality, and expand wildlife habitat.
- Incorporate water quality improvements as Park features, including daylighting stormdrains and constructing wetlands.
- Encourage design competitions and community participation to ensure high-caliber designs that serve community needs and advance the quality of open space.

- Include Local Gateways within River Parks, as major access points to the River.
- Integrate public transportation in or near the Park.
- Refer to Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for detailed guidance.
- Ensure circulation and spaces are ADA-compliant.

#### Where to apply the element:

- Within areas with a high incidence of youth density
- Where habitat restoration is needed
- Where channel modification possibilities are augmented by more Riverside park land



Rio de Los Angeles State Park (First Council District, 2006)

GOAL: EXTEND OPEN SPACE AND WATER QUALITY FEATURES INTO NEIGHBORHOODS  
**RIVER PARK BUFFER**

All River-adjacent parks and open space should incorporate a minimum 30-foot Buffer from the right-of-way to create an effective separation between recreation uses and restored habitat areas along the River's edge. This requirement should be applied in all new open space or parkland created along the River, and selectively applied in existing parks and open spaces based on identified conflicts between recreational uses and ecosystem function. These can also serve to provide multiple-benefits in the form of recreation and water quality improvements.

Guidelines:

- Create a natural open space Buffer area 30 feet wide along existing Riverside Parks that is integrated with the River Greenway. This area will improve water quality, and add habitat, trails, and other passive amenities.
- Include multiple points of access to the River, including Gateway elements.
- Note improved River access in park signage.

- Refer to Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for detailed guidance.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

Where to apply the element:

- Small vacant lots and other available land opportunities
- At local access points and neighborhood gateways
- Cul-de-sac's and street-ends
- Vacated streets

RIVER PARK BUFFER

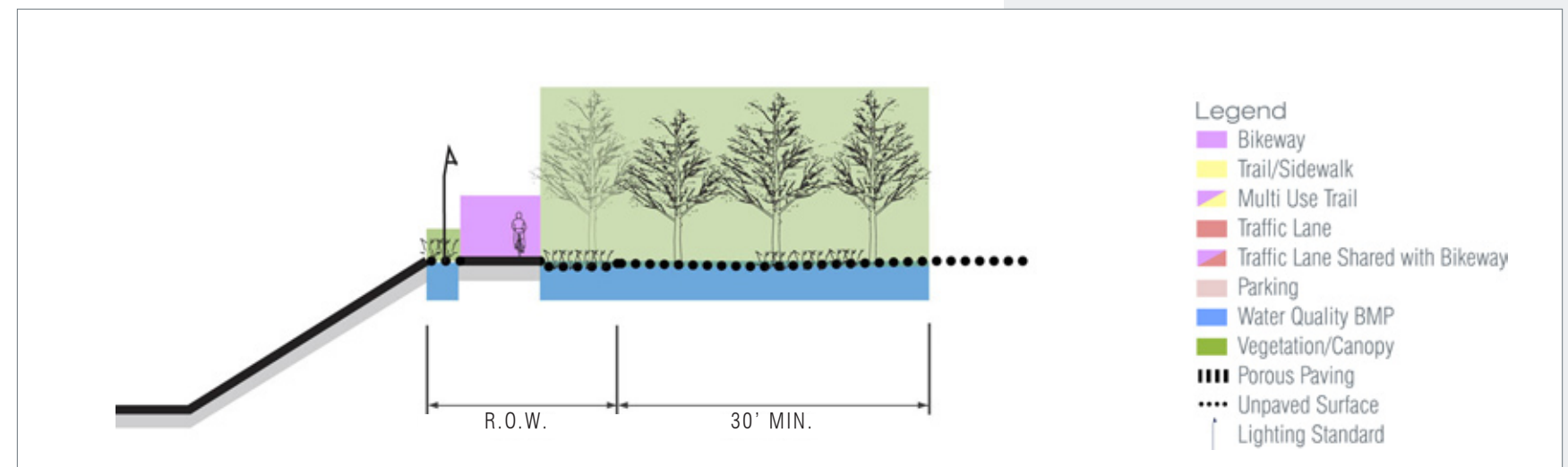
- A natural area that provides physical separation between the River Corridor proper and adjacent active recreation uses.

POTENTIAL RIVER PARK BUFFER PROJECTS:

- Reseda Park
- Sepulveda Basin
- Weddington Park
- Griffith Park



Cuernavaca Park provides a 100-foot native buffer between the Platte River and usable open space in Denver, Colorado. (2005)



## POCKET PARKS

- Opportunities to provide additional parks and natural areas by acquiring smaller properties along the River, or by recapturing underused space outside the River Corridor in the neighborhoods.

## POTENTIAL POCKET PARK PROJECTS:

- Variel Avenue
- Vanalden Avenue
- Amigo Avenue
- Etiwanda Avenue
- Laurel Grove Avenue
- South Mariposa Street
- Silver Lake Boulevard
- Dorris Place
- Commercial Street
- Industrial & Jesse Street
- Bay and Sacramento Street

GOAL: EXTEND OPEN SPACE AND WATER QUALITY FEATURES INTO NEIGHBORHOODS

## POCKET PARKS

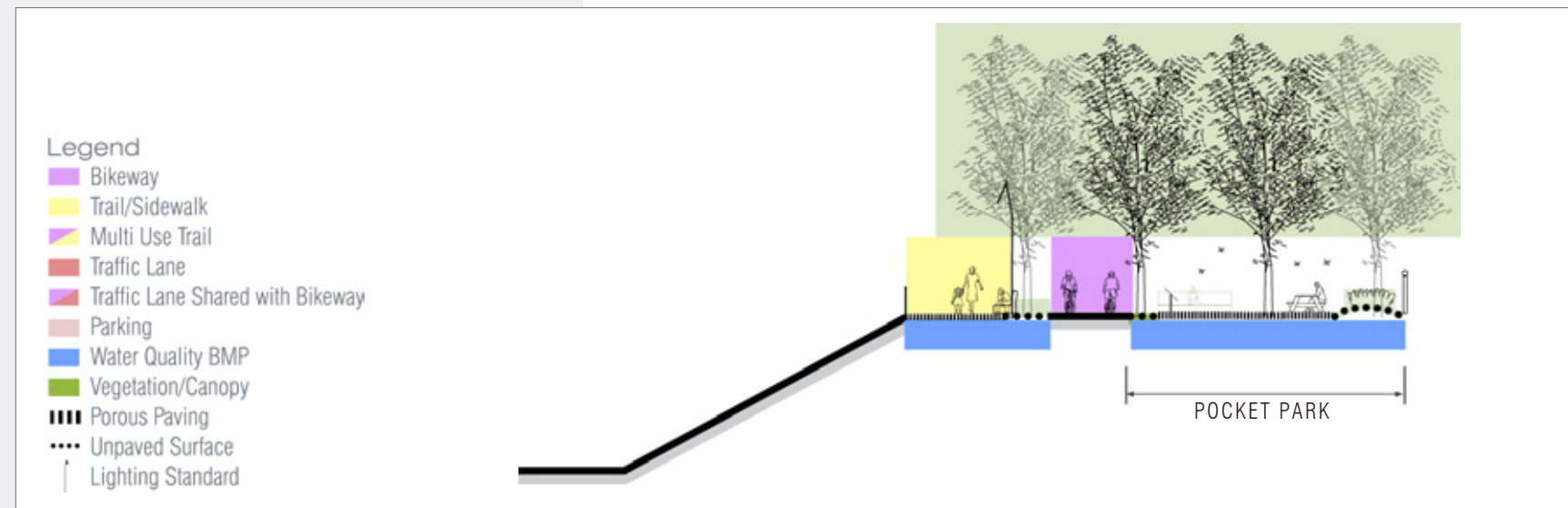
Pocket Parks provide opportunities for neighborhood-scale green space, rest areas, and Gateways. They can transform small, underused spaces into public spaces. These small spaces can be rich with amenities, including interpretative signage, public art, and water quality features. Several have already been built along the River and serve as local landmarks and destinations.

### Guidelines:

- Refer to Los Angeles County Master Plan Landscaping Guidelines and Plant Palettes for guidance.
- Encourage the recognition of local identity and character.
- Incorporate public art.
- Include Park amenities, such as seating, interpretative signage, interactive features, lighting, and water fountains.
- Require water quality BMP's and sustainable materials and construction methods including recycling of construction materials, such as concrete.
- Integrate with neighborhood Gateways and Primary Local Green Streets.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

- Small vacant lots and other available land
- At local access points and neighborhood Gateways
- On cul-de-sac's and street-ends
- At vacated streets



Egret Park along the Los Angeles River in the Elysian Valley (2006)

GOAL: EXTEND OPEN SPACE AND WATER QUALITY FEATURES INTO NEIGHBORHOODS

## OUTDOOR CLASSROOMS & RIVER LEARNING CENTERS

Regional and local facilities help educate the community and children about the River and about environmental stewardship. Outdoor Classrooms near schools can serve as year-round living laboratories that are integrated into school curriculums. Regional River Learning Centers can hold exhibits and provide facilities for public gatherings, and attract visitors from throughout the region. Together these facilities can improve understanding of the River and of local and regional environmental issues.

### Guidelines:

- Create local and regional facilities.
- Include teaching facilities, such as outdoor laboratories, classrooms, amphitheaters, and exhibits.
- Include demonstration projects to test sustainable technologies and water quality monitoring.
- Create interactive elements that involve schoolchildren in their design and construction.

- Incorporate public art.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

- At sites with bicycle and pedestrian access to local schools
- As local gateways to schools near the River
- In areas with specific ecological value or near River channel improvements

## OUTDOOR CLASSROOMS AND RIVER LEARNING CENTERS

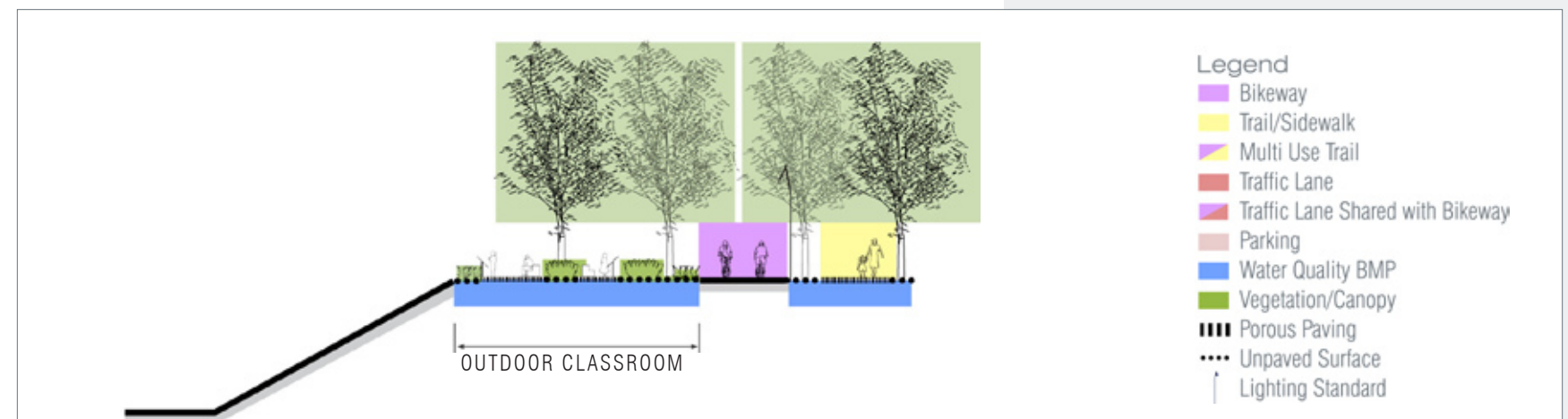
- Opportunities for outdoor learning with a River or environmental restoration focus, that may include school sites or dedicated River facilities.

## POTENTIAL OUTDOOR CLASSROOMS AND RIVER LEARNING CENTERS PROJECTS

- Canoga Park High School
- Reseda High School Outdoor Classroom
- Sepulveda Basin (Birmingham School)
- Colfax Avenue
- River Glen Opportunity Area
- Taylor Yard
- Dorris Place
- Lincoln Heights Riverfront Cultural Center
- Chinatown/Cornfield Opportunity Area
- Albion Street
- Downtown Industrial Opportunity Area



Environmental learning at Richard Lillard Outdoor Classroom. (Los Angeles County Department of Public Works, 2006)



**DEFINITION:  
ACTIVE RECREATION**

Active recreation can involve cooperative or team activity, with associated facilities, or individual activities. Facilities typically include athletic fields, buildings and structures for recreational activities and administration, community gardens, courses or courts, children’s play areas, recreational water bodies, dog areas, bikeways and equestrian trails. These uses may require recreational staffing.

**A NEED FOR ACTIVE RECREATION**

Increasing child obesity rates are a concern for children throughout Los Angeles. In the Los Angeles Unified School District (LAUSD), 87% of all students are classified as not physically fit.

The relationship between improved public health and the availability of parks and open space--particularly those that provide active and passive recreation--are well known (e.g., Sherer 2006; TPL 2006; García and White 2006). The Plan offers an important opportunity to provide much-needed active recreation facilities where they are currently lacking--along the River.

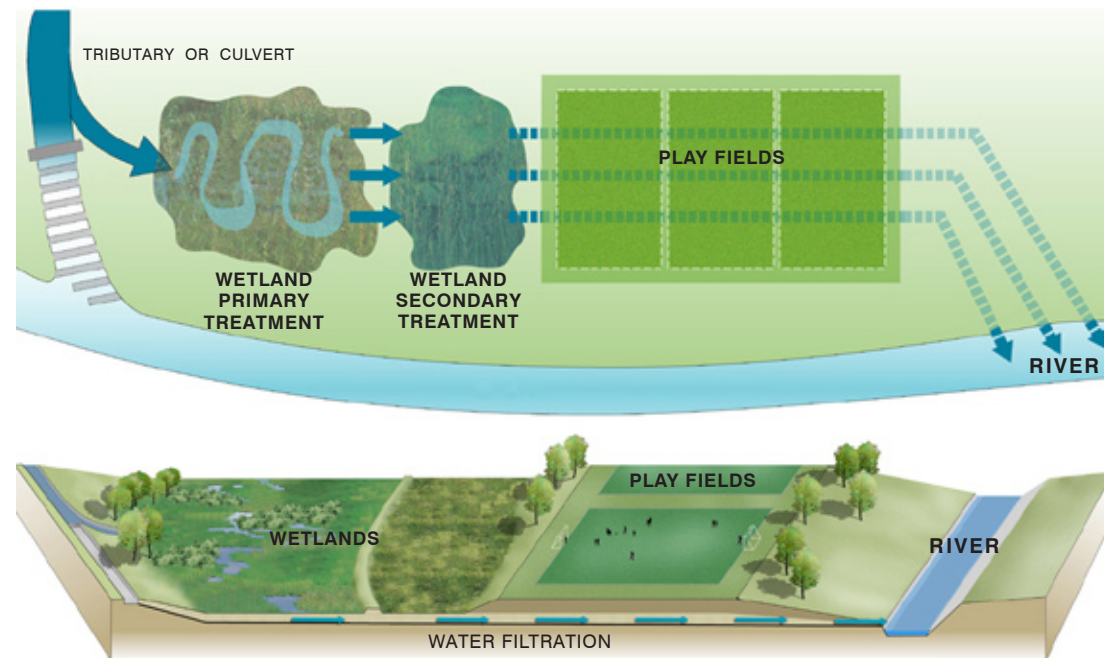


Balboa Park

**GOAL: EXTEND OPEN SPACE AND WATER QUALITY FEATURES INTO NEIGHBORHOODS**

**ACTIVE RECREATION**

The Los Angeles River Greenway has great potential to meet some of the demand for new parks and recreation facilities, with equitable distribution and access. The River can become a continuous route, that safely connects teams and users to active recreation opportunities. At present, families living near the River must drive 20-30 miles to access soccer facilities. This has many secondary impacts, such as increased traffic, air pollution, energy consumption, and safety concerns. Recreation facilities should be planned for areas of greatest need, such as within areas of high youth density. The human health benefits of recreation, such as reducing obesity, diabetes, and other diseases, is well documented (Richard J. Jackson et al. Creating a Healthy Environment: The Impact of the Built Environment on Public Health). Opportunities also exist adjacent to the Greenway for the location of regional active sports complexes, attracting teams both locally and nationally. This has the added benefit of revenue generation and job creation. Sports fields and recreational facilities are often thought of as being at odds with habitat and passive uses. When reconsidered as multi-objective projects, active sports fields can serve to improve water quality, through detention, retention, and filtration (See diagram below.). For example, Pierce College in Canoga Park recently installed a water infiltration basin beneath its soccer field, collecting run-off from the adjacent parking lots.



The diagram above illustrates the potential of recreation fields to improve water quality. A dry weather flow might come from a culvert or tributary, and run through a natural treatment system before entering the River.



Echo Park Lake, Los Angeles



Sepulveda Basin Bikeway, Los Angeles



Soccer, Exposition Park, Los Angeles

GOAL: EXTEND OPEN SPACE AND WATER QUALITY FEATURES INTO NEIGHBORHOODS

AN INTEGRATED RECREATIONAL SYSTEM

The River Revitalization Master Plan offers a vision to create opportunities to improve public health and fitness. With 32 miles of bikeways and trails, designed family walking “loops,” equestrian loops, and the River Greenway, the Plan provides an integrated system of recreational opportunities.

The River Greenway will also serve as a connector to a great diversity of existing and emerging recreational systems. The continuous 32 mile bikeway can be both a commuter route and a recreational bikeway, offering safe, non-motorized access to local and regional recreational facilities, and to joint-use destinations throughout the City.



Fishing, The Painted Turtle Camp at Lake Hughes, Filmore



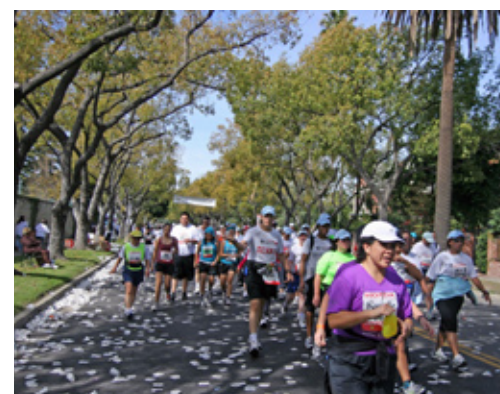
Equestrian Trail, Point Reyes National Seashore



Baseball, Griffith Park, Los Angeles



Ultimate Frisbee, Griffith Park, Los Angeles



Los Angeles Marathon



Sports Fields, Balboa Park, Los Angeles



Skate Park, Glendora



Roller Skating, Golden Gate Park, San Francisco



Playground, San Jose

FUTURE DECISIONS

The specific locations and quantities of parks and active recreational facilities will be determined through a public participation process. Communities will have active involvement in determine the future of new open space in their areas. Planners for each area will gather information, listen to stakeholders, identify issues, hold public workshops, and conduct an open house with a public hearing.

Recreation areas and access should be planned so as not to conflict with proposed or existing conservation and habitat areas.

According to the Citywide General Plan Framework adopted by the City Council on August 8, 2001, the City of Los Angeles should provide, “sufficient and accessible parkland and recreation opportunities in every neighborhood of the City, which gives all residents the opportunity to enjoy green spaces, athletic activities, social activities and passive recreation.” The City should also “Prioritize the implementation of recreation and park projects in areas of the City with the greatest existing deficiencies.”



Rock Climbing, Griffith Park, Los Angeles

**DEFINITION:  
PASSIVE RECREATION**

Passive recreation is usually defined as activities that require limited physical exertion and few support facilities. Popular examples of passive recreational activities include bird watching, walking or photography. Associated facilities and amenities may include interpretive signage, benches, and picnic areas.

**PASSIVE RECREATION**

Passive recreation occurs in a variety of open space types. These can include parks, landscaped areas, natural areas, ornamental gardens, interactive water features, picnic areas, water bodies, or trails. The River Greenway has the potential to provide a diversity of passive social spaces and respites from the busy City, a place to walk and to learn.

Few opportunities exist in the City for connection with natural systems. Many of the existing areas are popular and overloaded and typically require significant driving time for access. Hollywood’s Runyon Canyon is an example of an overused passive open space that hosts thousands of visitors and pets. The River Greenway will offer myriad opportunities for passive recreation with improved habitat areas to expand wildlife viewing opportunities and provide environmental education opportunities. Outdoor classrooms will not only serve an educational function, but will also serve as community meeting places and destinations for ecological education through creative, River-oriented interpretive programs.



Santa Monica Mountains



Pedestrian Promenade, Echo Park, Los Angeles



Interpretive Signage, Marsh Park, Los Angeles



Card Game, Plummer Park, Los Angeles



Cesar Chavez Festival, Kidspace, Pasadena

Passive recreation provides the opportunity for significant economic growth as well as providing public access to open space. The diversity of recreation types associated with passive activities caters to many audiences of all ages. In 2001, Birdwatching alone included some 46 million individuals throughout the United States who spent over \$32 billion in 2001 on birding activities, primarily on lodging and other travel costs (U.S. Fish & Wildlife, 2001).

Additionally, the reduced maintenance and water use associated with passive recreation areas offers economic savings. The economic benefits associated with passive recreation areas could be significant when considered in the context of the entire Los Angeles River Greenway.



Battery Park City Promenade, New York City



Nature Field Trip, Sookie Goldman Nature Center



Bird Watching, Sepulveda Basin



Conguero, Griffith Park, Los Angeles



Photo, Courtesy of Community Conservancy Int.



Clown Performance, Griffith Park, Los Angeles



Family Picnic, Exposition Park, Los Angeles



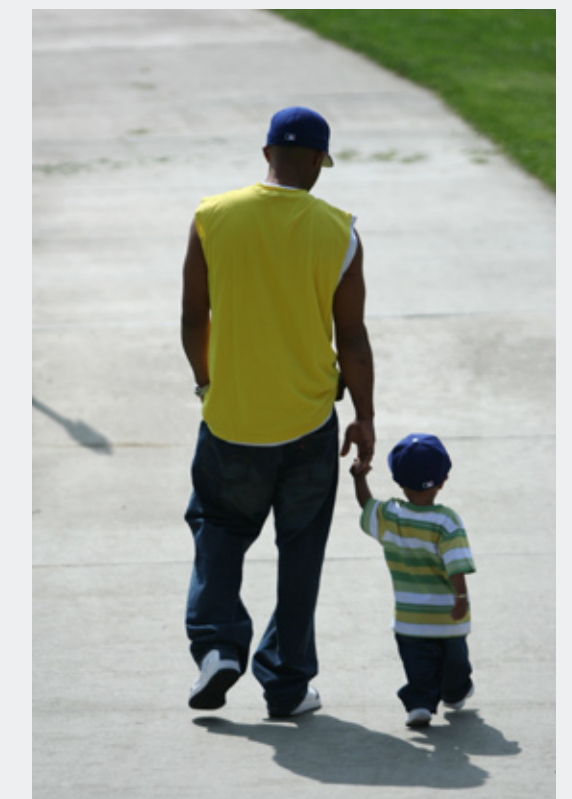
Musician, Griffith Park, Los Angeles



Family Celebration, Griffith Park, Los Angeles

## CONCURRENT PLANNING EFFORTS

The City of Los Angeles Department of Recreation and Parks Community Needs Assessment, begun in 2006, will work with communities to develop strategies that help prioritize and address the tremendous needs for recreation and open space. It will also include an assessment of existing programs and facilities.



Father and Son, Pan Pacific Regional Park

## RECOMMENDATIONS

Recommendation #5.12:  
Identify physical opportunities to improve the visibility of the River Corridor.

Recommendation #5.13:  
Identify opportunities to improve public perception of the River Corridor.

Recommendation #5.14:  
Encourage local and diverse character within the River Corridor.

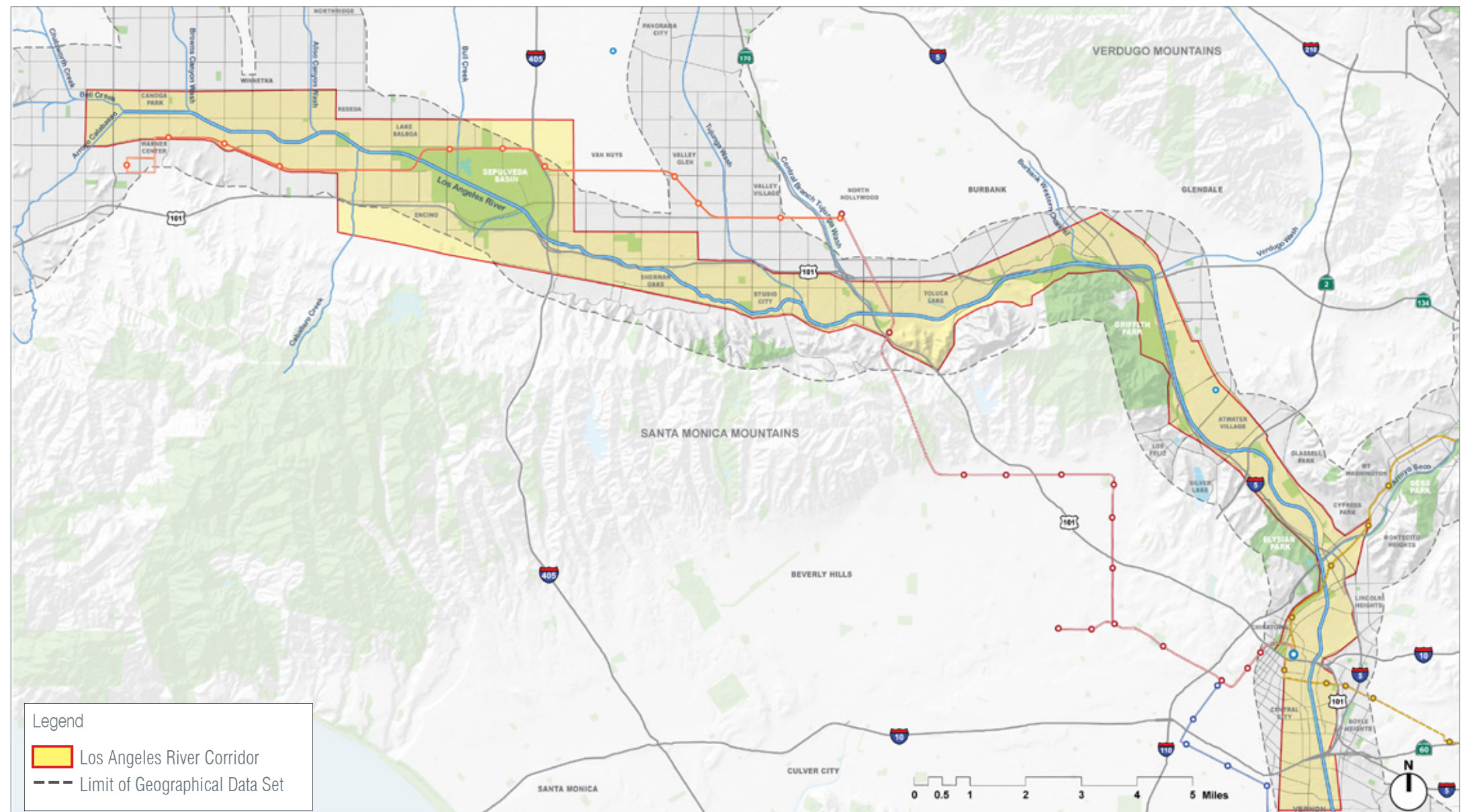
## PROTOTYPICAL ELEMENTS AND THEIR USE

Building blocks that can be used to enhance River identity. These include:

- River Bicycle and Pedestrian Bridges
- Multimodal Bridges
- Portals
- Local and Regional Gateways

Key design features for these elements and guidelines concerning where to apply them are described in the next section.

Enhance River Identity: The Proposed River Corridor



## GOAL: ENHANCE RIVER IDENTITY

### THE CHALLENGE

In the past, the River suffered from negative perceptions and a general lack of visibility within the City. These conditions predate the 1938 lining of the channel by the U.S. Army Corps of Engineers. Indeed, the River was omitted from many tourist maps from the first quarter of the 20th century. Lined with railways and industrial development, today many River reaches are virtually invisible, and where they can be seen, they do not present a welcoming environment.

The City has the opportunity to reveal the River, to restore public awareness, and to make the River visible and perceptible as the central feature of a new revitalized River Corridor. This will be an area that is green, more pedestrian-friendly, and environmentally sustainable and can be a new source of pride for the region.

This section describes how the River's identity can be enhanced through physical elements that lend a signature quality, such as Bridges and Gateways. It also describes how programmed events and educational opportunities could be used to strengthen awareness of the River as an engaging place. A concluding section of the chapter describes recommendations for a public art program and series of policies that can complement these features.



Sycamore trees line Riverside Drive in Griffith Park. (2006)

### RECOMMENDATIONS

**Recommendation #5.12:** Identify physical opportunities to improve the visibility of the River Corridor.

While visibility can be improved with signage, the River Corridor also should be identifiable through other means, including a greater density of street trees and other public amenities. Many barriers, including topography and freeways, also currently interrupt views and experiences of the River. For these conditions, the Master Plan recommends “Portals” and Gateways that bring the River’s presence into the City.

**Recommendation #5.13:** Identify opportunities to improve public perception of the River Corridor.

Event programming can help improve the perception of the Los Angeles River. Imagine if a national event such as the Los Angeles River Ride, were to occur along the Los Angeles River Greenway. Both regional and local event programming can enliven and provide new visibility and attention to the River. Some possible events include team sporting events, after school activities, a “River Rangers” program, and intergenerational activities such as community gardens.

**Recommendation #5.14:** Encourage local and diverse character within the River Corridor.

This recommendation suggests that while certain design guidelines, such as those outlined in the County’s Landscaping Guidelines and Plant Palettes, should be maintained to enhance continuity, other elements should reflect the diverse cultural, environmental, and artistic elements of the different areas of the City the River traverses.

### CONCURRENT PLANNING EFFORTS

- The County Department of Public Works, with the Mountains Recreation and Conservation Authority (MRCA), has established a uniform regional mapping and sign system, incorporating a distinctive logo that signals when one is near the River. These signs occur at many vehicular bridges and at key points on the City’s freeways and off-ramps.
- The City has recently completed a mile marker pilot project, intended to increase safety in the River right-of-way. This system includes station points marked along the River that, in the event of an emergency, enables users to provide their locations to emergency personnel.
- The Friends of the Los Angeles River (FoLAR) organizes annual cleanups, called “La Gran Limpieza” which have become extremely popular and successful events.
- The City of Los Angeles hosts an annual “River Day.”
- Many recent projects, such as Elysian Valley’s Oso Park, incorporate large sculptures as iconic gateways. Similarly, the County of Los Angeles with technical support from The River Project recently planned the Valleyheart Greenway, which uses sculptural gateways and other design elements to celebrate the River and draw people to it.

## RIVER BRIDGES

- Vehicle bridges that cross the River

## POTENTIAL RIVER BRIDGE PROJECTS:

- Canoga Avenue
- Winnetka Avenue
- Reseda Boulevard
- Sepulveda Boulevard
- Van Nuys Boulevard
- Laurel Canyon Boulevard
- Lankershim Boulevard
- Los Feliz Boulevard
- Fletcher Drive
- Broadway
- 1st Street
- 4th Street

### GOAL: ENHANCE RIVER IDENTITY

## RIVER BRIDGES

Vehicle roadway bridges will continue to serve as a primary means of crossing the River for non-motorized users. As such, they must be retrofitted or expanded to include enhanced bicycle and pedestrian facilities. Some of the bridges crossing the River are historic, so it is important that pedestrian features be integrated carefully with historic features. Future River Bridges (and existing non-historic bridges) might incorporate contemporary stylistic elements that improve the experience of crossing on and under them. Belvederes and other viewing structures on these Bridges should be encouraged so that people can enjoy River vistas from the Bridges. Other enhancements to the Bridges could also include green spaces or gateway elements, such as banners and decorative lighting and interpretive signage. As specific bridges are selected for improvements, further study will be necessary to determine feasibility of bridge widening and the potential impacts on the adjoining neighborhoods that could result.

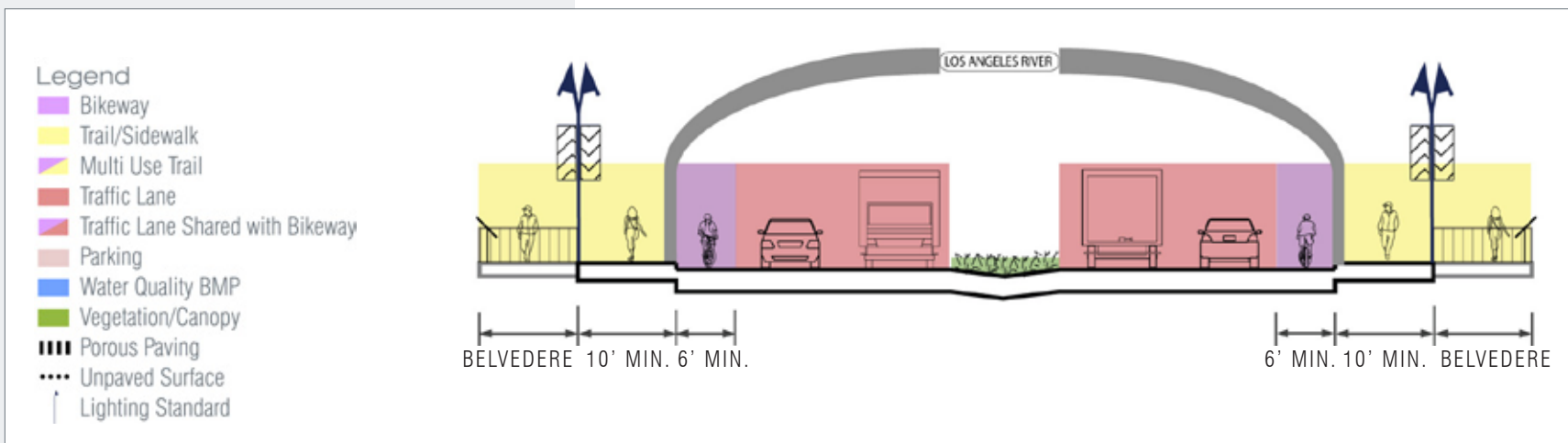
### Guidelines:

- Create safe bike lanes on bridges according to Los Angeles Department of Transportation (LADOT), CALTRANS HDM, California 2006 MUTCD, and 2003 MUTCD standards for bike paths.
- Construct overlooks and belvederes to view the River.
- Include lighting below bridges for safe undercrossings.
- Integrate modifications to avoid impacting the character of historic River Bridges.

- Incorporate habitat features, such as underside nesting areas.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

- On bridges planned for improvement, widening, and/or retrofitting
- For every arterial street crossing the River
- On arterial streets that connect to major destinations
- For bridges connecting streets that have existing bike paths



Broadway Bridge Belvederes

GOAL: ENHANCE RIVER IDENTITY

## NON-MOTORIZED BRIDGES

Non-motorized Bridges are recommended to augment street bridge crossings that are narrow, congested, or somewhat inaccessible. They should be installed first in locations where they will fill significant gaps in connectivity and improve non-motorized mobility.

Non-motorized Bridges should be designed to serve as signature elements within the River Corridor. Some bridge crossings may include amenities, such as shade structures, overlooks or belvederes, concessions, and interpretive signage.

Guidelines:

- Commission “signature” Non-motorized Bridges that express a design or artistic sensibility and become landmarks for the River.
- Bridges should always safely accommodate both pedestrian and bicycle traffic, with widths determined by intended use. Path sizes and alignments should follow CALTRANS HDM, California 2006 MUTCD, and 2003 standards for bike paths.
- Light for safety, and design lighting features to highlight the bridge.

- Include amenities such as seating areas, interpretive and wayfinding signage, kiosks, concessions, belvederes, and shade structures.
- Incorporate wildlife habitat, such as underside nesting areas.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

Where to apply the element:

- At the end of Paseos, Local Green Streets, and Primary Arterial Streets
- Next to vehicle River crossings where expanding existing facilities to accommodate additional bicycle and pedestrian traffic would be more costly
- Approximately every 1/2 mile to provide safe pedestrian crossings
- Connecting to major destinations
- At tributary confluences to facilitate access to bicycle and pedestrian paths

## NON-MOTORIZED BRIDGES

- Provide non-motorized crossings in cases where existing vehicle bridges cannot be modified or are unsuitable for pedestrian traffic.

## POTENTIAL NON-MOTORIZED BRIDGE PROJECTS:

- Orange Line
- Sepulveda Basin
- Tujunga Wash Confluence
- Weddington Park
- Bob Hope
- Glendale Riverwalk
- Burbank Western Channel
- River Glen
- Verdugo Wash
- Colorado Avenue
- Verdant Street
- Los Feliz
- Taylor Yard
- Elysian Park
- Cornfields
- Downtown Industrial



Sunnynook Bridge photo taken just downstream of Los Feliz Boulevard. (Councilmember Tom LaBonge’s 2003 Calendar “Los Angeles: Photographing the Fourth District.”)



One of many signature non-motorized bridges along the Cheong Gyecheon River in Seoul, South Korea. (Arman Rin Jr. via Creative Common License and e-mail contact, 2006)

## PORTALS

- Freeway or rail underpasses that provide gateways to the River.

## POTENTIAL PORTAL PROJECTS

- Kester Avenue under 101 Freeway
- Van Nuys Boulevard under 101 Freeway
- Hazeltine Avenue under 101 Freeway
- Fletcher Drive under 5 Freeway
- Edward Way and Railway
- Media Center Drive and Railway
- Newell Street under 5 Freeway
- East End of Los Angeles State Historic Park
- North Main Street under 5 Freeway
- Commercial Street and Railway
- 4th Street under 5 Freeway
- Sacramento Street and Railway

### GOAL: ENHANCE RIVER IDENTITY

## PORTALS

Portals improve access to the River from areas isolated by infrastructure such as freeways or railways. Portals may provide access where none existed before, but they predominantly are intended to improve existing access points. For instance, freeway underpasses are often neglected spaces that divide communities from the River. Portals provide an opportunity to celebrate and mark the presence of the River with public art, vegetation, lighting, and street furniture, and thus improve the experience of people finding passage to the River.

### Guidelines:

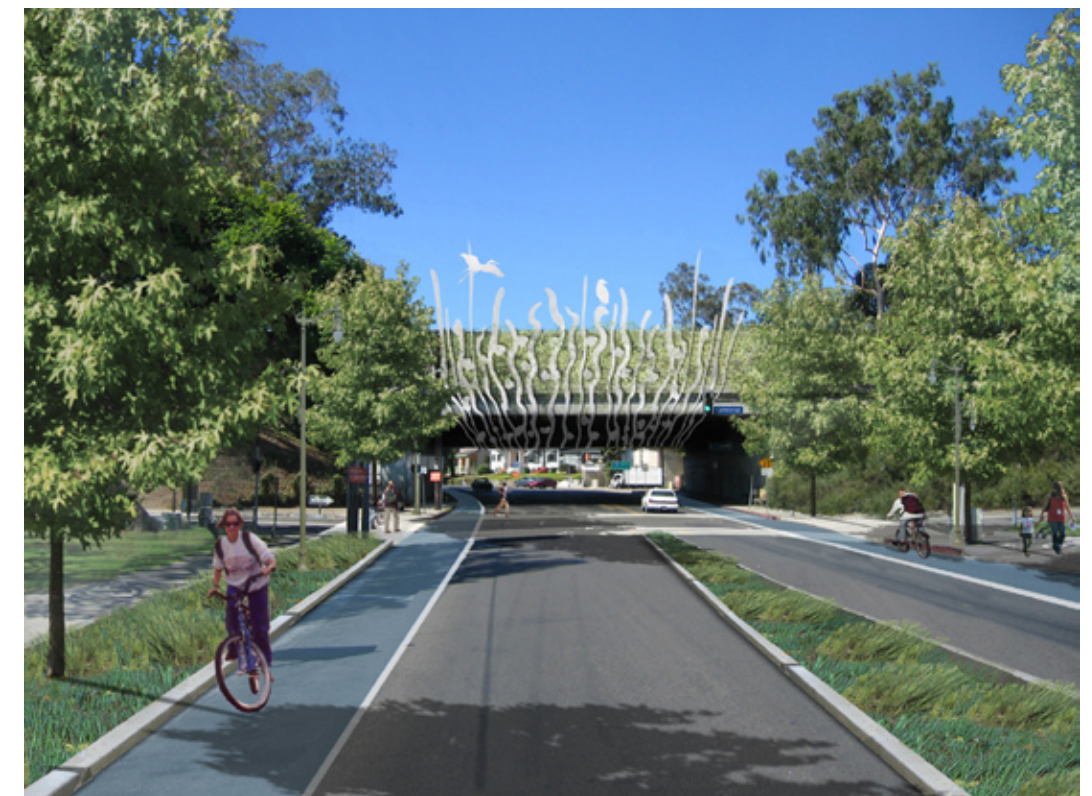
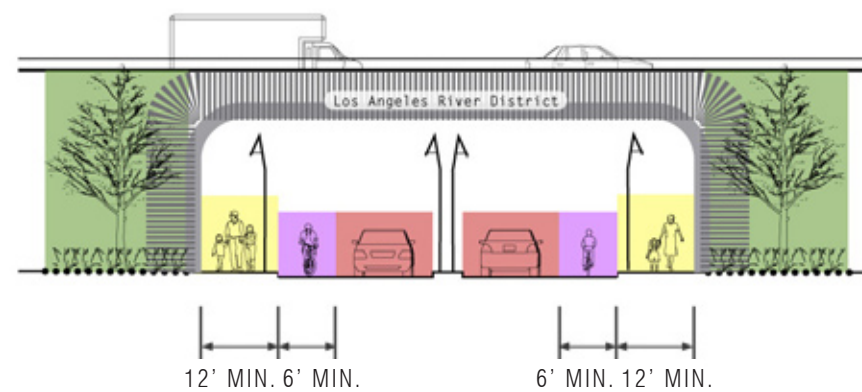
- Include bike paths and enhanced pedestrian facilities.
- Include water quality improvements, such as porous parking strips, bulb-outs, and infiltration and water treatment strips.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to apply the element:

- At existing underpasses, overpasses, and crossings of major infrastructure and linear obstructions, such as freeways and rail, that lead to the River and are within or near the River Corridor
- At underpasses in areas with few alternative routes to the River
- At underpasses that link to major destinations
- Combined with paseos in areas with limited access that are isolated from the River

### Legend

- Bikeway
- Trail/Sidewalk
- Multi Use Trail
- Traffic Lane
- Traffic Lane Shared with Bikeway
- Parking
- Water Quality BMP
- Vegetation/Canopy
- ▨ Porous Paving
- ⋯ Unpaved Surface
- ↑ Lighting Standard



Proposed Portal in the Downtown Industrial Opportunity Area

GOAL: ENHANCE RIVER IDENTITY

## LOCAL AND REGIONAL GATEWAYS

Located at major access points and near regional landmarks, Gateways employ signature features to celebrate the River Corridor. Given the low profile of the River, Gateways can be important visual elements to mark the presence of the River. Already there are several great examples of local gateways within the River Greenway that exemplify the value of employing local artists and crafts people. As the River Corridor expands, Gateways into the River will mark its expanded influence. Gateways are suitable for many locations, such as at streets, trail access points, large parks, and at regional connections.

### Guidelines

- Commission artists and designers to create distinctive signature Gateways that relate to the cultural, natural, and geographic context.
- Include multiple amenities, such as vegetation, furniture, and lighting at the Gateway.
- Scale Regional and Local Gateways appropriately.
- All spaces and circulation should be ADA-compliant to standards for grading and surfacing materials.

### Where to use

- At any access point along the River
- At access points that connect to other River elements, such as Green Streets, Paseos, and other trail systems
- In places that are highly visible, such as along major Freeways and Arterial Streets

## LOCAL AND REGIONAL GATEWAYS

- Signature elements that mark localized passageways and connections to the River, such as Gateways marking streets that end at the River, or archways marking Greenway connections.

## POTENTIAL LOCAL AND REGIONAL GATEWAYS PROJECTS

### Regional Gateways

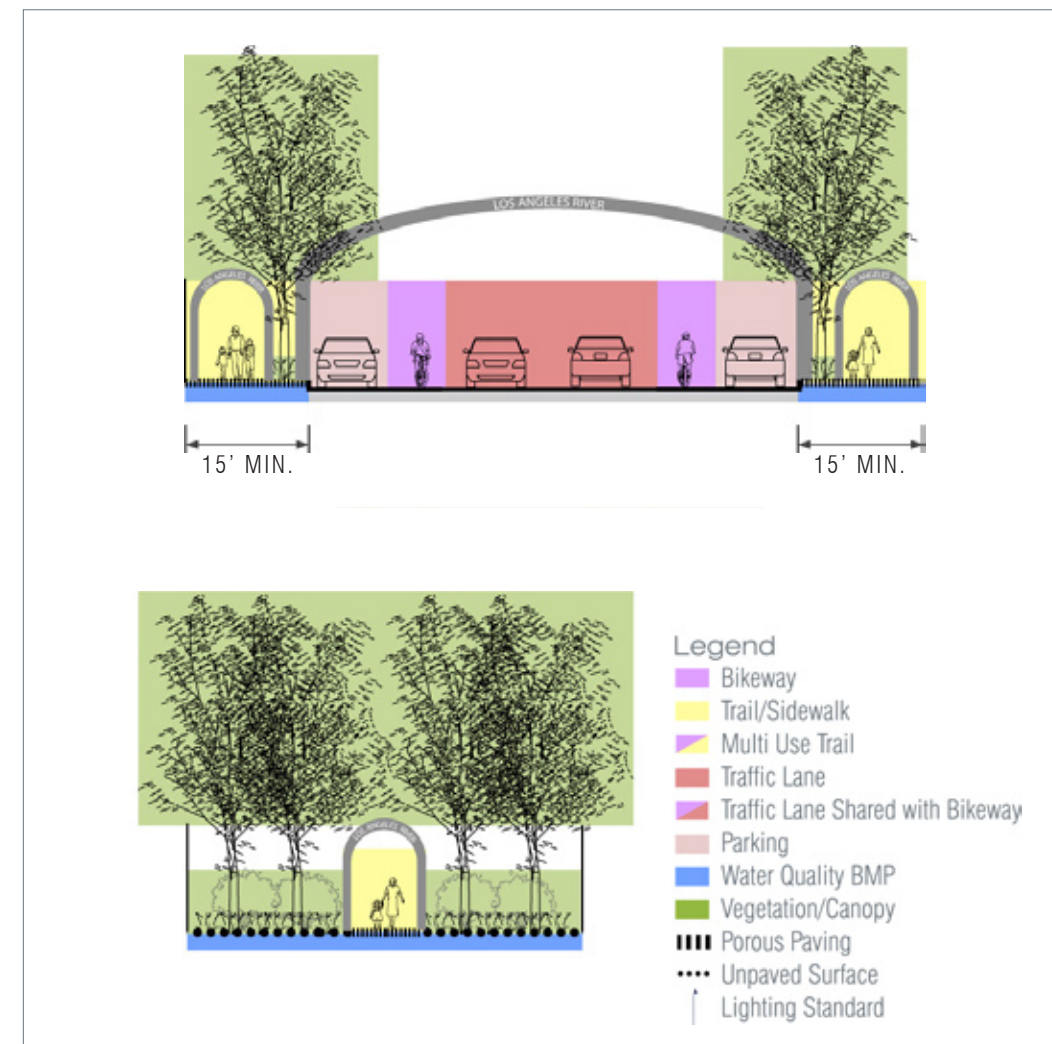
- Canoga Park
- Reseda Park
- Sepulveda Basin
- Weddington Park
- Spreading Grounds
- River Glen
- Taylor Yard
- Cornfields
- Downtown Industrial

### Local Gateways

- Variel Avenue
- Vanalden Avenue
- Amigo Avenue
- Fulton Avenue
- Moorpark Street
- South Mariposa Street
- Brazil Street
- Chevy Chase Street
- Silver Lake Boulevard
- Newell Street
- Crown River Gateway



Rattlesnake Park entry gateway in Elysian Valley along the River (2006)

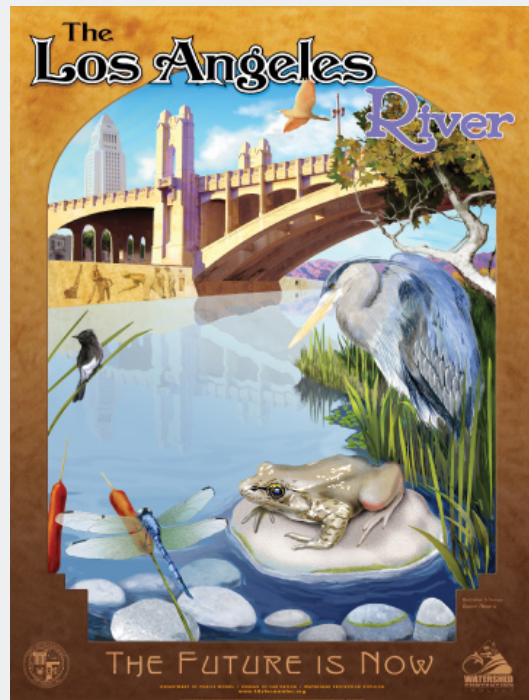


# GOAL: ENHANCE THE USE OF ART ALONG THE RIVER

## RECOMMENDATIONS

Recommendation #5.15:  
Identify physical opportunities to introduce art along the River.

Recommendation #5.16:  
Create a River Arts Program that reflects and celebrates the history of the River and the diverse cultures of its surrounding neighborhoods.



Los Angeles River Poster (City Los Angeles, Bureau of Sanitation)

## THE CHALLENGE

Art of many types can be used to add life to the revitalized River. Art can inspire, create interest and wonder, offer interpretations, and serve as a way for communities to participate in Revitalization. There is a rich history of art and the River, including murals and the well-known painting of storm sewer covers as “River Cats” by Leo Limón.

The latter seemingly simple act of art brought attention to the River and its condition, caught the attention of adults and children, and contributed to a generation of people who began to wonder how the River might be improved. The cats were more than an attractive idea; they also called attention to the relationship between the River and the stormwater system of the City. This helps to remind people of the relationship of the River to an extensive upstream infrastructure, and raises questions about the quality of the water in the River.

Murals have also played a role in greater Los Angeles, especially “The Great Wall of Los Angeles” mural wall in the Tujunga Wash created by Judy Baca and the numerous groups that have helped her maintain and expand it over the years. Beyond the beauty and cultural interest of the mural, the act of organizing the community to understand, celebrate and participate in honoring the Wash and its significance, has played a role in the environmental and cultural education of the community. Elsewhere in the City, the Metropolitan Water District of Southern California sponsored an art exhibit entitled, “Liquid Art” designed to reflect the region’s cultural relationship to water.

In more recent years, art has become an important part of several community-based and nonprofit River improvement efforts by groups such as FoLAR and North East Trees. Artistic benches, gates, fencing, pavements, plantings, and other features have been installed to enhance the experience of visiting and learning about the River. Performances from dance to theater and music have been held in and along the River. The River as a venue for film and advertising is recognized internationally.

Beyond the use of the River as a venue for the creativity, performance, and recording of art and art activities, the River itself has been the subject or backdrop for countless creative endeavors that range from prose and poetry to song, drawings, paintings, collage, art constructions and installations, photo essays, and documentary films. The scale, appearance, and history of the River have made it an iconic emblem of Los Angeles that is not always thought of as a positive reflection on the City.

This legacy of art will continue and hopefully accelerate with the revitalization and increased awareness of the River. In the past, some River art has been established with the permission of the County (which today manages the River right-of-way), some has been informally placed, and other pieces have been placed as visible public monuments. Important work can also be done in conjunction with the City’s Cultural Affairs Commission to incorporate art in both landscape and structural elements of the Plan’s recommendations.

## RECOMMENDATIONS

Recommendation #5.15: Identify physical opportunities to introduce art along the River.

The identity and awareness of the River within the community at large can be enhanced by a program to encourage, support, and maintain art that enhances the beauty and diversity of meaning and interpretations that the River inspires in people. The revitalization effort will benefit if an arts program is established to coordinate how art is commissioned, funded, and managed to improve upon and to guide the eclectic artistic activities of diverse communities.

Art placement, performances, and activities may be focused near the River, but should also occur outside the River right-of-way. Visual art, graphic art, sculpture and light could all be among the elements that contribute to the identity and character of the River at Gateways, along pathways leading to the River, and in other places of significance within the River Corridor.

Recommendation #5.16: Create a River Arts Program that reflects and celebrates the history of the River and the diverse cultures of its surrounding neighborhoods.

There are a number of ways that the arts can be brought to the River. It is important to recognize that there are already many different artists, art groups and alliances, art advocates, art patrons, and other constituents that make up the arts community in Los Angeles. If a program for the arts on the River is to be successful and sustainable it will need to be developed in a way that is open to many interests and ideas, inclusive in how it is developed, fair in how it is administered, and effective in how art is commissioned and managed. River art programs and cultural centers can also engage youth and families by encouraging their appreciation and participation in the creation of art.

To begin development of the River Arts Program, an interim art coordinator could work with staff at the City's Cultural Affairs Department and the County to coordinate and track art activities associated with the River.

The Interim Art Coordinator could participate in discussions about the formation of the Plan's proposed River Foundation, which could be responsible for developing and managing the River Arts Program. The Foundation would need to work with the City and the County, through the proposed Joint Powers Authority and the Revitalization Corporation, to develop agreements that would establish roles and responsibilities to manage art within the River right-of-way, and regarding cooperation of art activities on public lands and streets within the River Corridor.

The Foundation would need to establish its own approach to developing the Arts Program; the following ideas provide a beginning point for discussion:

- Consider establishing an Arts Program advisory group as a sounding board for issues and ideas. This group may include artists, arts managers or producers, and representatives of existing arts management entities.
- Invite the arts community to workshops to discuss issues that influence the establishment of the River Arts Program.

Develop guidelines for:

- Selection criteria
- Selection process and participation
- Location and venue opportunities
- Guidelines for each type of art such as visual, performance, and film
- Guidelines for commissioned work
- Guidelines for donated work
- Tools for public information and interpretation
- Partnerships with other entities and foundations
- Foundation staffing and operational needs
- Capital funding program and sources
- Operation funding program and sources
- Ongoing role of the advisory group
- Process for monitoring and refining the program
- Formalizing the River Arts Program by adoption of the board of the Foundation with appropriate staff and funding support.
- Elements of arts and culture should be considered in the development of parks and open space. Contemporary research stresses the need for cultural sensitivity in such planning efforts. (e.g., Loukaitou-Sideris and Stieglitz 2002)



An art installation along the Cheong Gyecheon River in Seoul, South Korea. (Arman Rin Jr. via Creative Commons License and e-mail contact, 2006)



top - Judith Baca's *The Great Wall* along the Tujunga Wash, a public art project that provided learning and employment opportunities for at risk youth. (2006)

middle - Claes Oldenburg's piece is one of many pieces of art located on the grounds of the Walker Art Museum in Minneapolis, Minnesota. (Tim Wilson via Creative Commons License)

bottom - Outdoor art along the Tennessee River, in Chattanooga, Tennessee, near the Hunter Museum of American Art (2005)



# CAPTURE COMMUNITY OPPORTUNITIES 6

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



Ferraro Fields are set between the Los Angeles River, the 5 Freeway, and Griffith Park. (2006)

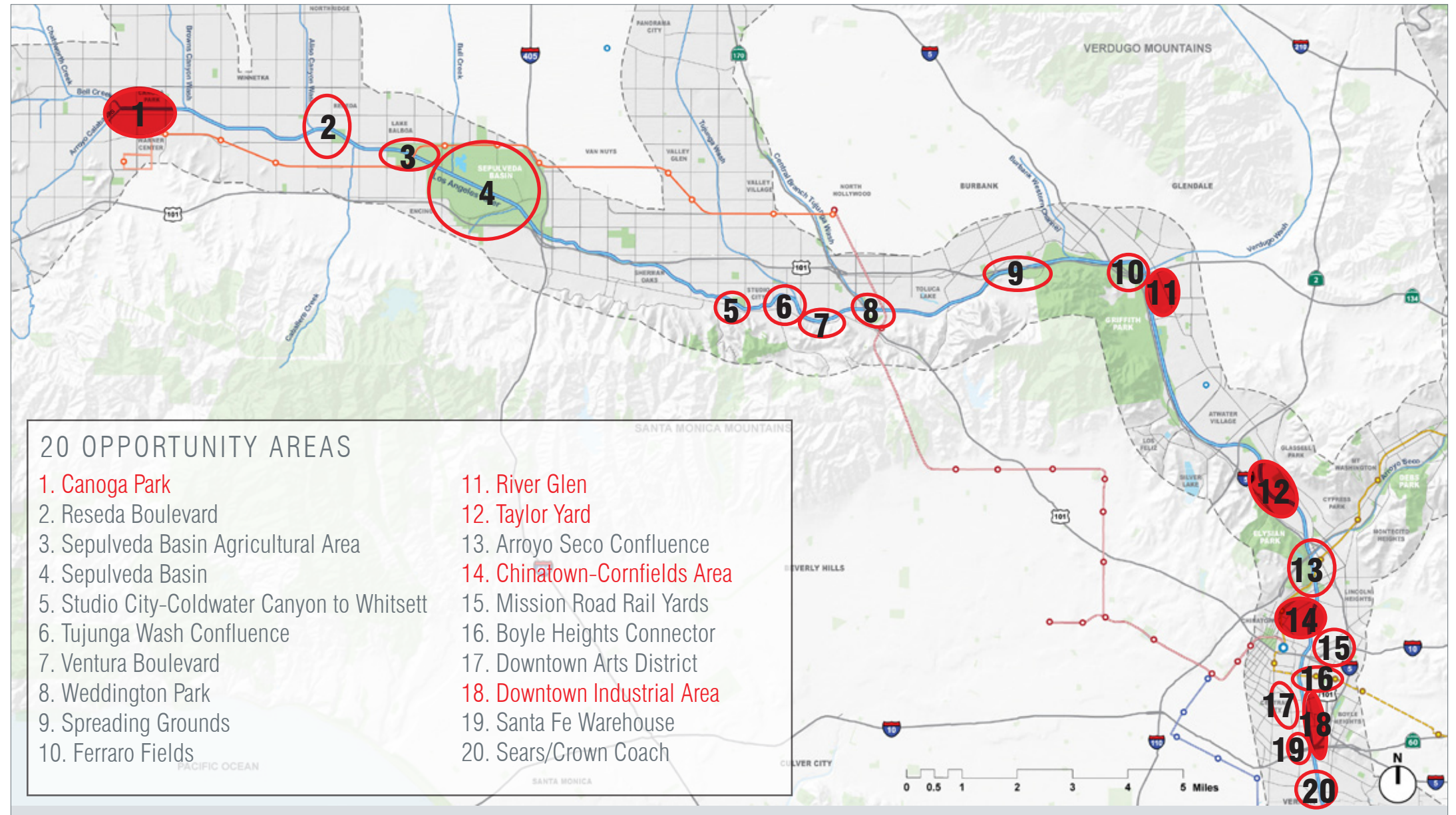
OPPORTUNITY AREAS AS DEMONSTRATIONS OF REVITALIZATION POTENTIAL

The River offers a new opportunity for stimulating improvements that can stabilize neighborhoods that are in flux, for providing a new amenity for established neighborhoods, and for acting as a catalyst for reinvestment in selected areas.

The identification of 20 Opportunity Areas provides a way of demonstrating revitalization potential, ecological restoration, new recreation opportunities, and water quality improvements. The Opportunity Areas also represent the array of approaches to dealing with situations that recur along the River, for example, constriction of the River Corridor by rail lines and limited rights-of-way through residential neighborhoods.

The detailed concept plans for five of these Opportunity Areas, presented in this chapter, show the potential market-driven community reinvestment that could begin to occur as a direct result of the River and open space improvements.

Opportunity Areas



## OPPORTUNITY AREAS AS DEMONSTRATION SITES

### COMMUNITIES DISCOVER THE RIVER

One of the most stunning observations about the River is that it has become virtually invisible and treated as the back of everything. There are few examples where private property owners have invested in the River side of their properties as if it were the front. With revitalization, property owners will be more inclined to invest in and appreciate the River as a valuable and attractive frontyard.

Turning toward the River would represent a significant change in expectations and opportunities for property owners. In some cases, such as in the Valley, single-family homes line the River, yet the River is behind them in their backyards. For many of these residents, there is a sense of hope that the River can be improved, and will offer improved access to new regional amenities including trails and parks. Some property owners are apprehensive about revitalization since new River trails and terraces would bring more people closer to their properties. Overall, River revitalization could increase land values, and, over the long term, bring benefits to these and all residents in the River Corridor.

The River runs through ten distinct Community Plan areas: Canoga Park-Winnetka-Woodland Hills-West Hills, Reseda-West Van Nuys, Encino-Tarzana, Van Nuys-North Sherman Oaks, Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass, Hollywood, Northeast Los Angeles, Silver Lake-Echo Park, Central City North, and Boyle Heights. As important as the River might become to these communities, it is almost unrecognized in these plans. This alone suggests that there is a real opportunity for many neighborhoods to define new ways in which the River can provide benefits and exert a positive influence on future land use planning.

This Revitalization Master Plan suggests a wide range of potential benefits and opportunities that River revitalization can bring to communities. After Plan adoption, communities can begin to decide how these proposals fit their local needs. This process will result in discussions about changes to existing Community Plans that can allow the River to become recognized as a valued asset.

### OPPORTUNITY AREAS CAN DEMONSTRATE REVITALIZATION

Twenty Opportunity Areas were identified within the River Corridor to demonstrate the diverse possibilities of a revitalized River. The value of these areas is to serve as case studies or models that illustrate what might be feasible under alternative River improvement scenarios—some bold and some more restrained. Because they are intended as demonstrations, it is important that these Opportunity Areas:

- Be highly visible;
- Illustrate ideas for all three River areas, as initially categorized by the County's Los Angeles River Master Plan (1996); these include the San Fernando Valley, the Glendale Narrows, and the Downtown area.
- Provide potential approaches to and solutions for common conditions that exist along the River. Some common conditions include: areas where freeways and railroads line the River's edge; areas where industrial uses are converting to residential developments resulting in a loss of important jobs; at confluences of the River and major tributaries; where the River is surrounded by dense, single-family residential development; brownfiled sites where soil contamination has occurred as a result of previous land-uses; or areas where major ecosystem restoration and removal of the concrete channel walls may be possible.
- Capture opportunities for short-term implementation and bold, longer-term changes.
- Meet demonstrated needs and the potential for a broad range of multiple benefits, including ecosystem restoration, active and passive recreation, and connectivity with the larger, existing green space system.
- Demonstrate multiple-use projects, such as shared use of parks and schools, and multiple benefit watershed management features.



Transit oriented communities such as this one along the Arroyo Seco could improve access to and development around a revitalized Los Angeles River. (December 2005)

# OPPORTUNITY AREA SELECTION PROCESS

## 20 OPPORTUNITY AREAS

- Canoga Park
- Reseda Boulevard
- Sepulveda Basin Agricultural Area
- Sepulveda Basin
- Studio City-Coldwater Canyon to Whitsett
- Tujunga Wash Confluence
- Ventura Boulevard
- Weddington Park
- Spreading Grounds
- Ferraro Fields
- River Glen
- Taylor Yard
- Arroyo Seco Confluence
- Chinatown-Cornfields Area
- Mission Road Rail Yards
- Boyle Heights Connector
- Downtown Arts District
- Downtown Industrial Area
- Santa Fe Warehouse
- Sears/Crown Coach

### TRANSLATING PLAN GOALS INTO SPECIFIC CRITERIA

The process for identifying potential Opportunity Areas was grounded in careful examination of neighborhoods along the River. The sites that offered the potential to demonstrate typical changes that can occur along the River and meet specific criteria developed during the planning process are described below. These criteria embody the major goals of the Plan. This process resulted in the identification of the 20 potential Opportunity Areas. Subsequent analysis and community discussion helped to identify five of these areas that offered multiple benefits as demonstration case studies.

The following criteria were developed as an elaboration of the Plan’s major goals, to help guide the identification of potential Opportunity Areas. These criteria were used to query the public during the community workshops; participants were asked questions, such as, “Which areas best display the potential for achieving ‘clean water’...‘improved habitat’...‘development opportunities’...or ‘community space’?” These goals are further defined below.

#### Clean Water, Safe from Floods:

Areas should be able to improve water quality, recharge groundwater, maintain or enhance flood protection, and reduce flow velocities in the channel.

#### Green the City:

Areas should be able to create, expand, and/or connect wildlife habitat, parks, recreation and open space, and improve River aesthetics and visibility.

#### Build Community:

Areas should be able to create multiple community benefits and economic reinvestment opportunities, reconnect neighborhoods, and provide environmental equity.

#### Create a Successful Plan:

Areas should support the goals of the Revitalization Master Plan by combining other City-wide initiatives, pursuing or leveraging grant and bond monies, focusing on undervalued and transitional property, and focusing on sites that may become available in the near term.

The 20 Opportunity Areas illustrated on page 6-2 were identified for further consideration based on the selection criteria listed above. They are ordered geographically, from the River’s origin at Canoga Park, downstream to Downtown Los Angeles. Together they represent a broad spectrum of land uses, opportunities, and constraints, described in greater detail later in this chapter.

	Canoga Park	Reseda Blvd.	Sepulveda Basin Agricultural Area	Sepulveda Basin	Studio City	Tujunga Wash Confluence	Ventura Blvd.	Weddington Park	Spreading Grounds	Ferraro Fields	River Glen	Taylor Yard	Arroyo Seco Confluence	Cornfields / Chinatown Area	Mission Road Yards	Boyle Heights Connector	Downtown Arts District	Downtown Industrial Area	Santa Fe Warehouse	Sears / Crown Coach
<b>Clean Water, Safe From Floods</b>																				
Improve Water Quality	High	Low	High	High	Low	High	Low	High	High	Low	High	High	High	High	High	Low	High	High	High	High
Recharge Groundwater	Low	Low	High	High	Low	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
Retain/Enhance Flood Prot.	Low	Low	High	High	Low	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
Attenuate Flows	Low	Low	High	High	Low	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
<b>Green the City</b>																				
Create/Expand Habitat	Low	Low	High	High	Low	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
Create/Expand Parks	High	Low	High	High	Low	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
Improve River Aesthetics & Visibility	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
<b>Build Community</b>																				
Create Multiple Community Benefits	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
Create Reinvestment Opportunities	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High

little or no opportunity to achieve criteria	Black
low opportunity	Light Blue
medium opportunity	Yellow
high opportunity	Light Green
best or only opportunity to achieve criteria	Dark Green

## IDENTIFYING FIVE AREAS FOR DETAILED STUDY

Five areas were selected through further analysis and community discussion for more detailed development of River revitalization concepts, including economic analysis of recommended scenarios (presented in Chapter 7). These five areas were selected principally because they were perceived as offering multiple lessons concerning how common conditions along the River might be addressed. They are not the only areas along the River that are expected to see improvements, and may not be the first ones where revitalization projects are implemented. However, they were selected for their considerable potential in demonstrating revitalization possibilities and lessons.

Conceptual proposals for each of the five areas—including Canoga Park, River Glen, Taylor Yard, the Chinatown-Cornfields Area, and the Downtown Industrial Area—are presented in the following chapter. With the exception of Taylor Yard, two revitalization scenarios are presented for each Area: a “preferred” alternative and a “secondary” alternative. Each of the options was developed through interaction with the community and other stakeholders during the public workshop process and focuses on the conceptual open space and River improvements that are possible within the unique areas. In response to these improvements, market-driven community reinvestment is anticipated. The alternatives presented in this chapter as well as the images showing potential neighborhood growth in Chapter 7 are used to demonstrate the physical characteristics of the surrounding development that could result from reinvestment in response to the proposed River and open space improvements. However, these scenarios are only hypothetical and are intended as a guide to show how expected growth might be accommodated within the existing urban fabric adjacent to the River. For instance, if land is used for park space, it would displace other, existing uses; so, if a community chooses to create a park, it would also have to decide whether to replace those uses and if so, where. This could result in a densification of urban uses as—for example—more housing is accommodated on the same-sized lot by providing more housing units on more floor levels—resulting in a taller building.

Because the LARRMP is a visionary document, it is intended to give communities an idea of what future choices may entail regarding changes in and near the Los Angeles River; it is not intended to dictate how these areas will transform. Instead, it is the

responsibility of the surrounding communities, through Community Plan updates and other established planning processes, to sort through the precise nature of land use changes and other River improvements, particularly what is wanted and needed in terms of community reinvestment. The conceptual “A” and “B” alternatives within this Plan can be used as starting points for the community planning process, with each unique community free to determine for itself which elements are desirable, which are not, and which combination of elements from both alternatives—if any—may best suit local needs.

Only one alternative is presented for Taylor Yard because there was overwhelming agreement that this Area is uniquely situated to represent ecosystem restoration potential. Because of the potential for River adjacent development to separate the users of the new Rio de Los Angeles State Park and planned high school from the revitalized River’s edge, it was deemed inappropriate to propose a development-based scenario for this Area.

As with all reinvestment opportunities, concerns exist about the potential for gentrification, loss of jobs, and the availability of affordable housing that meets the needs of existing residents in the Plan’s proposed Opportunity Areas. In Chapter 10, the Plan proposes River management actions with specific recommendations for the study and analysis of these important issues. Included in these recommendations are specific examples of actions that could be taken to ensure that the current residents of these areas will be around to enjoy the benefits of River revitalization.

Each of the 15 remaining Opportunity Areas are also discussed in this chapter, with an emphasis on the particular benefits they could achieve through development. Indeed, in many of these areas, projects already have been initiated with independent funding sources. Future efforts along the River are expected to expand to additional areas in the corridor and adjoining communities, as implementation gains momentum. All of these Opportunity Areas have the potential to become connected in a holistic implementation process.

In Chapter 7, the economic implications of the “preferred” and “secondary” alternatives are discussed for each of the five areas studied in greater detail. Estimates of tax revenues, job impacts, and other benefits are shown, with estimates of potential reinvestment costs.



## CANOGA PARK: OPPORTUNITY AREA

### EXISTING CONDITIONS

*The Canoga Park Opportunity Area demonstrates how River revitalization might be accomplished in a densely-settled, largely single-family residential neighborhood.*

This Area is located where the Los Angeles River begins, at the confluence of the Arroyo Calabasas and Bell Creek. It is characterized by two very different development patterns, one to the north and one to the south of the River, and by varied streetscapes and land use patterns.

The area to the north of the River, bounded by Topanga Canyon Boulevard, Sherman Way and De Soto Avenue, is characterized by single-family and multi-family residential uses. Along Basset Street, the front of the properties face the River, resulting in a more active and engaged River environment.

Anchored by the Sherman Way commercial area, the area north of the River provides an immediate open space opportunity at the Landscape Material Yards that run parallel to Canoga Avenue, between the River and Sherman Way. Owned by the Los Angeles County Metropolitan Transit Authority (Metro), and leased on a month-to-month basis to the material companies, this land will become the future northern extension of the bus and rapid transit route of the Orange Line. The area provides an opportunity to partner with Metro to create an open space amenity along an important regional transportation route.

The blocks immediately to the east and west of the Landscape Material Yards are occupied by light-industrial and vehicle repair facilities. These land uses buffer the residential areas from the material yards and provide potential reinvestment opportunities when combined with the Metro expansion and open space creation.

To the south of the River, large and small retail complexes, office, and multi-family



top - Remmet Avenue to the north of the River (2006)

middle - Landscape material yards along Canoga Avenue north of the River (2006)

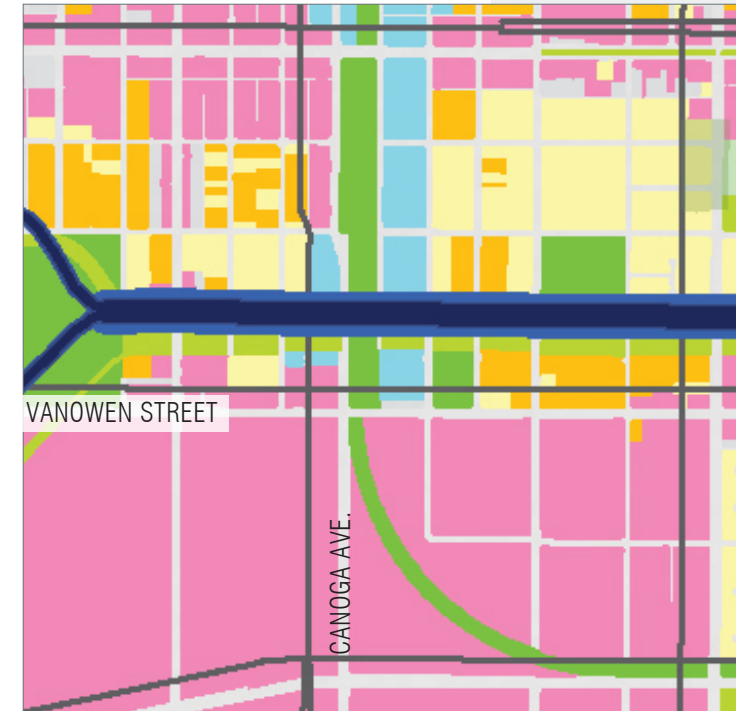
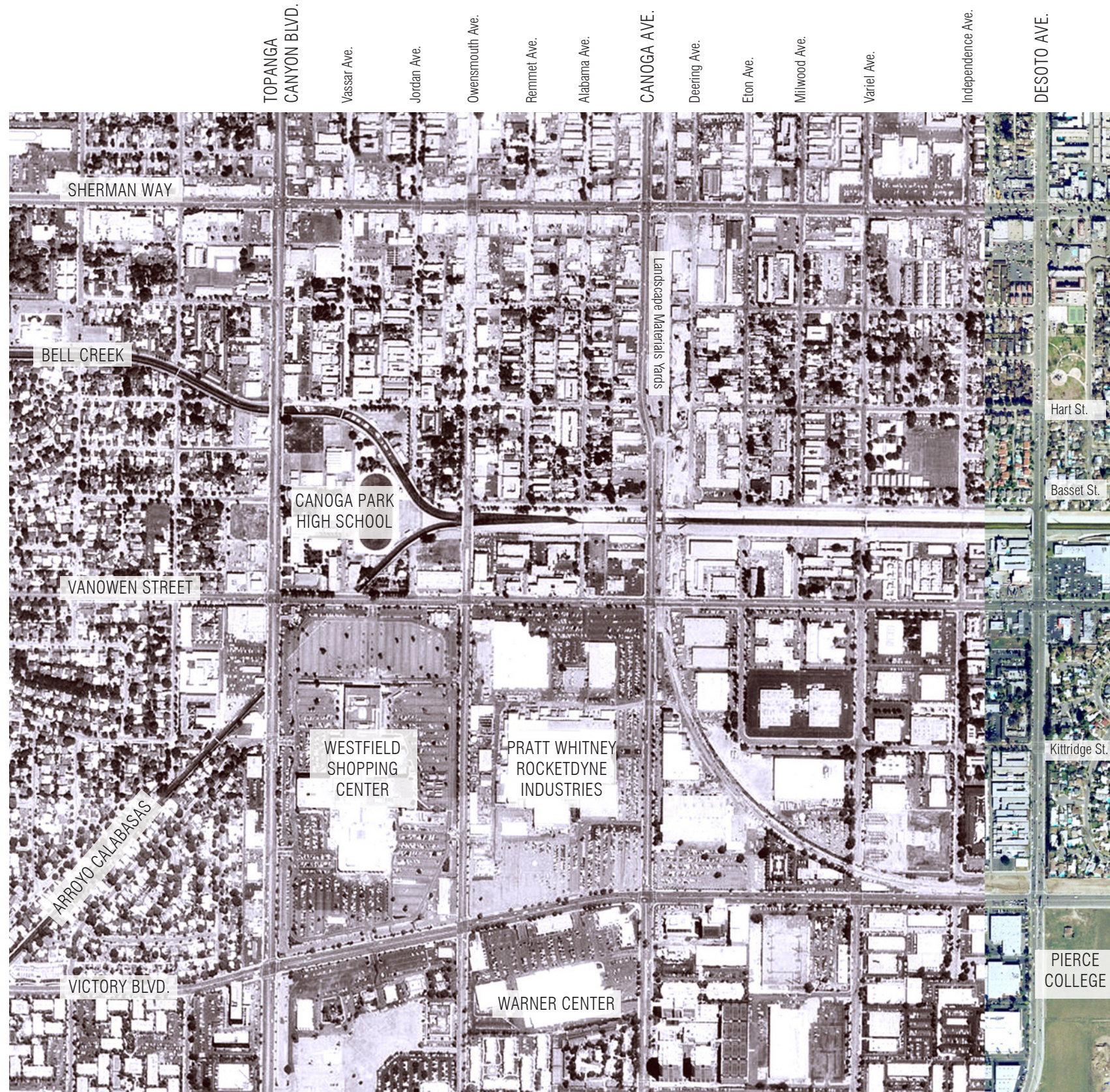
bottom - Houses fronting the River, create a more active and engaged River edge along Basset Street. (2006)



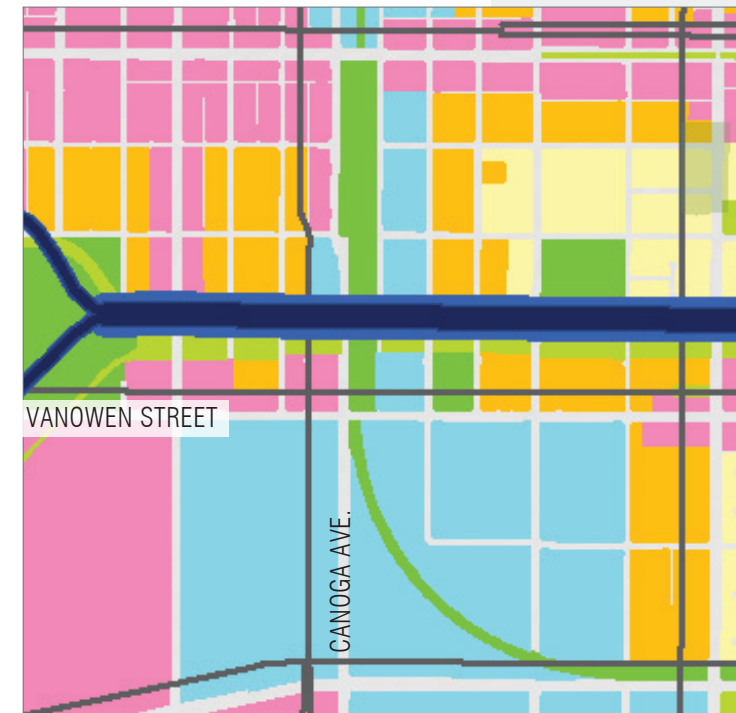
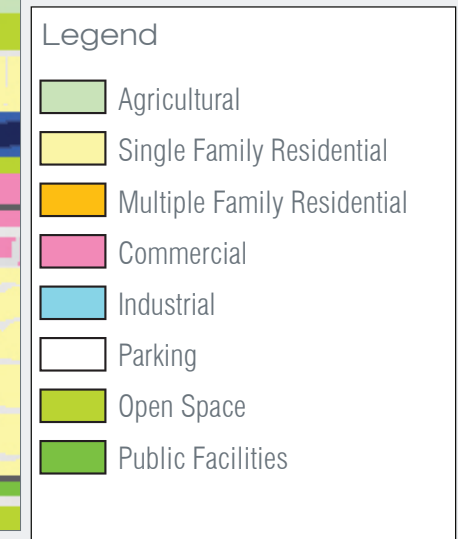
The Opportunity Area is characterized by smaller residential uses to the south and larger commercial or office uses to the north. (2006)

residential uses dominate the area bounded by Topanga Canyon Boulevard, Victory Boulevard, and De Soto Avenue. Within this area, major complexes include Warner Center, Pratt and Whitney, Rocketdyne Industries, and Westfield Topanga Shopping Center, providing a large daytime employment and shopping base for the area. The area is experiencing growth in multi-family residential development, as exemplified by the new Archstone Development at the corner of Victory and De Soto.

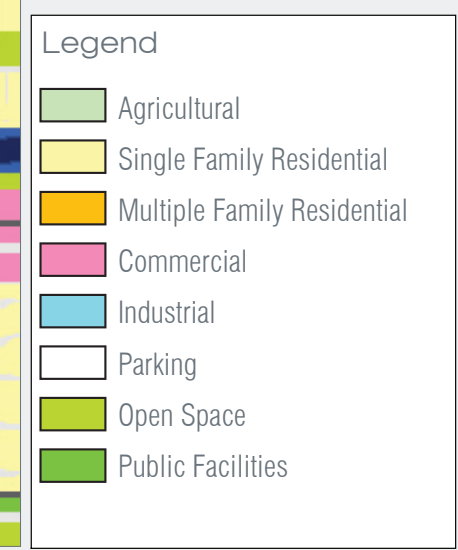
The area between Vanowen and the River is occupied by a mix of residential condominiums, market-rate and affordable rental properties, strip retail, storage facilities, and a Los Angeles Unified School District (LAUSD) maintenance facility. The frontage along the southern bank of the River is typified by parking lots and blank building façades.



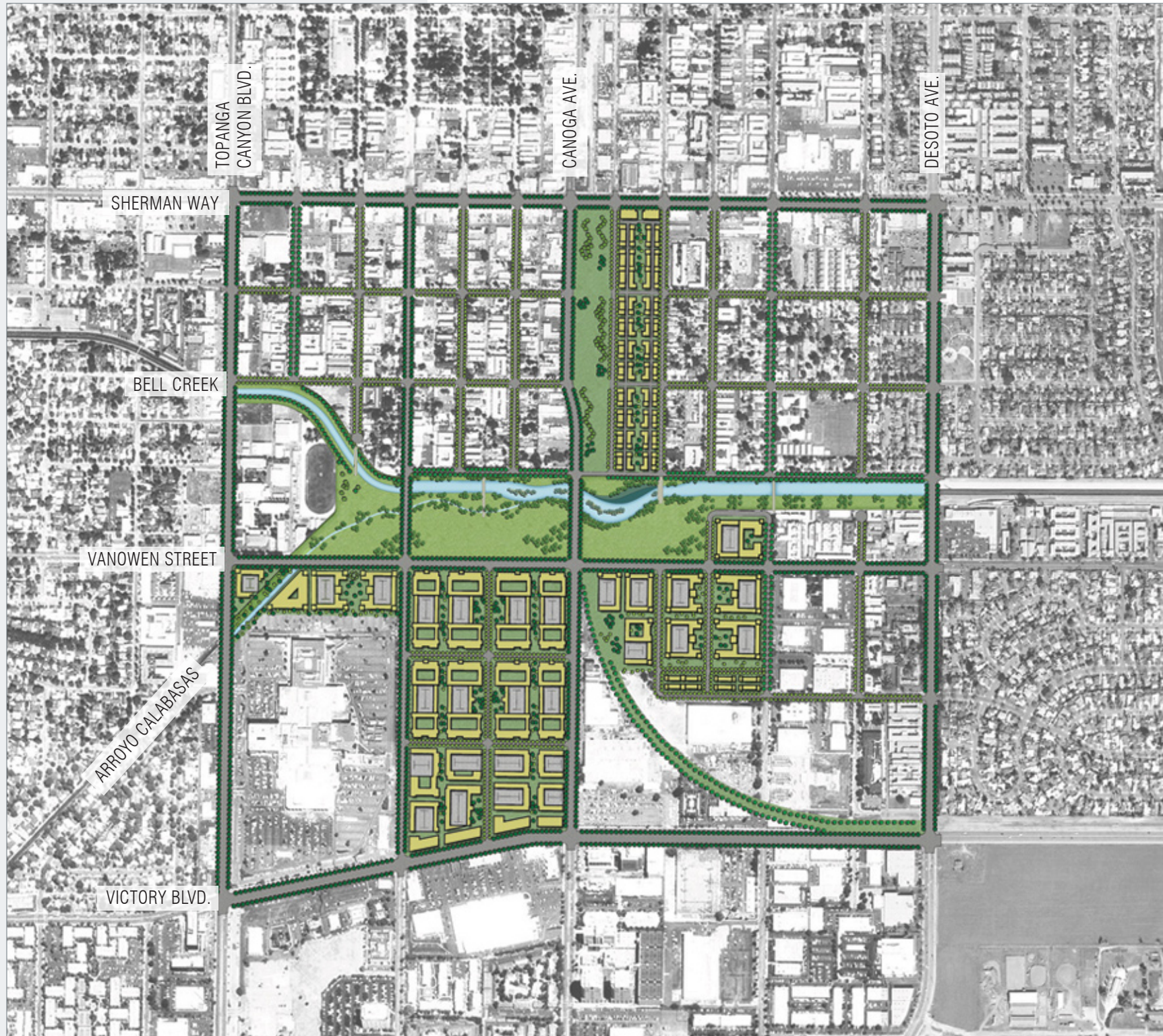
Existing Zoning



Community Plan - Land Use



# CANOGA PARK: PREFERRED ALTERNATIVE (ALT. B)



## IMAGINE A REVITALIZED RIVER!

*On a warm and sunny Saturday, Canoga Park residents are heading out for a day of activities in a new, 15-acre community park that hugs the south side of the Los Angeles River between Canoga Park High School and Variel Avenue. For years, residents had wanted more green space in their neighborhood and safe places for their children to play. Now, there are spaces for informal games, picnics, and a continuous River Greenway that connects to neighborhoods to the east, with safe ways to get to the water's edge.*

## RIVER-EDGE IMPROVEMENTS

In this vision for the Canoga Park Opportunity Area's Preferred Alternative B, the River has been changed dramatically. Before it was nearly invisible, hidden behind homes and businesses; now it is clearly marked with stately groupings of sycamores, oaks, and a copse of redwoods that has survived intact for years. The acquisition of additional right-of-way has provided the space necessary to restore the River to a more natural condition, and to re-create functional riparian habitat. The concrete has been removed on the south side of the River and in its place, the banks are gently terraced to the water's edge through a healthy riparian landscape. A generous natural buffer is



Looking west from near Canoga Avenue, the Arroyo Calabasas has been brought to the surface as an amenity for this new Riverfront Park.



A large new Riverfront Park bounded by Variel Avenue to the west, Vanowen Street to the south, and the Arroyo Calabasas to the north provides places for recreation in a park-poor neighborhood.

provided between this habitat zone and the more park-like areas. Arroyo Calabasas, previously conveyed within a box culvert under a parking lot of the Westfield Shopping Center, has been restored as an open creek and now winds its way to a new confluence with the Los Angeles River near Canoga Avenue. In this area, a small pond has been created through the introduction of a rubber dam, and riffle pools have been created to sustain fish habitat. The sky is dotted with herons and other shore birds that appreciate the riparian cover.

The green space also has another significant environmental function: treating stormwater runoff from adjacent streets and neighborhoods, as well as runoff that is transported through storm drains that empty into the River. At the street level, a system of “green strips” or bioinfiltration gardens, has been established to allow surface runoff to be treated and to infiltrate, where appropriate. Closer to the River, a system of water quality terraces has been created to capture and treat runoff that enters through storm drain outfalls.

This preferred alternative for the Canoga Park neighborhood has been designed to respond to a number of area-specific considerations:

- The expressed desire for additional green space, in an area well below the City average;
- An expressed desire for safer and more walkable connections to green space;
- A desire to reestablish a more natural River edge, and more functional habitat;
- Opportunities to capture and treat stormwater runoff that enters the River primarily along its south banks; and
- An opportunity to “celebrate” the origin of the Los Angeles River by daylighting Arroyo Calabasas and creating a more significant and dramatic confluence with the River.

## OPEN SPACE AND CONNECTIVITY

The Canoga Park Opportunity Area provides comprehensive regional and local connections and extensive park and recreational amenities for an area otherwise lacking in green space. With its open street grid and potential land availability, Canoga Park has great potential to create an open space network focused on the River.

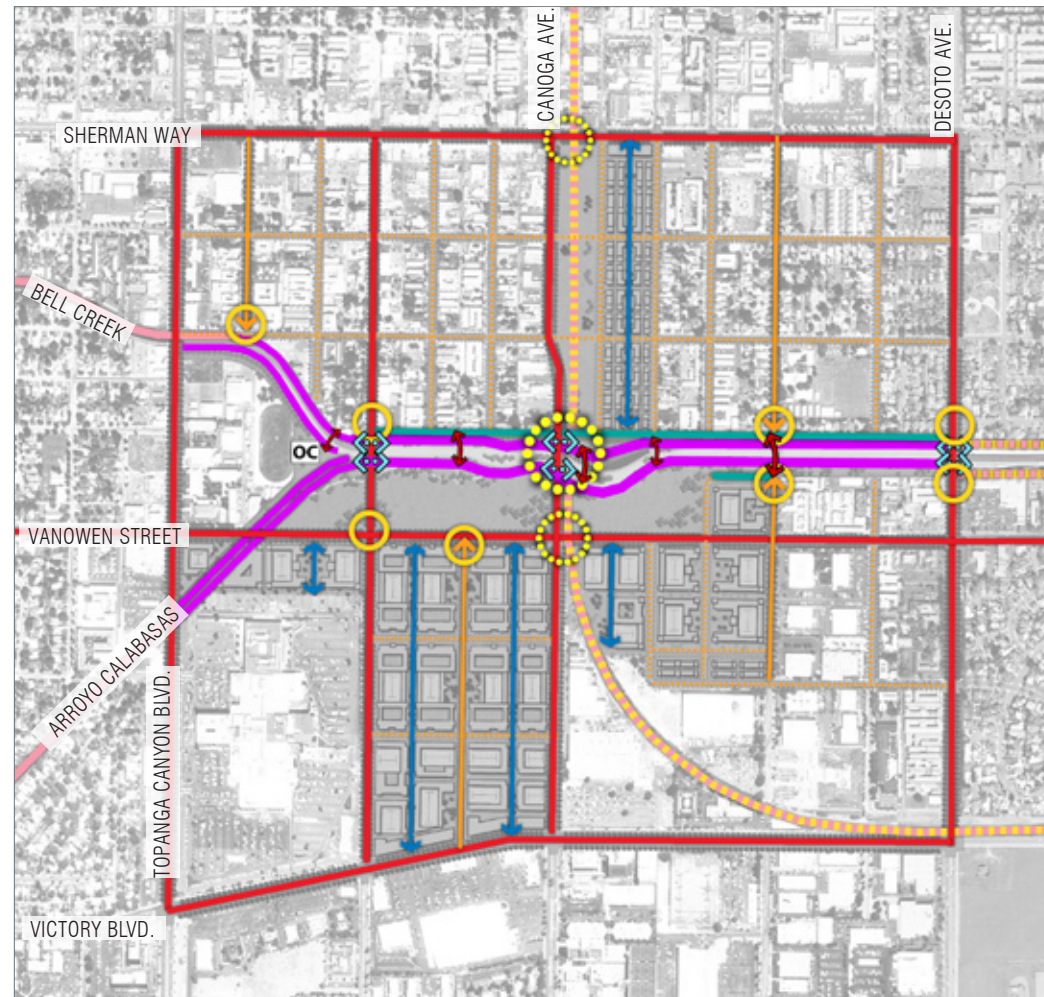
At the crossing with Canoga Avenue, a swath of green space running north, where the landscape material yards are located, connects with the proposed park on the riverfront. At the intersection of the park and the River, the Plan proposes a regional gateway



Existing - Looking north from the River's edge along the landscape material yards that front on Canoga Avenue in Canoga Park (2006)

**Legend**

- Primary Arterial Green Streets
- Primary Local Green Streets
- ⋯ Secondary Local Green Street
- Riverside Streets
- ↔ Paseo Promenades
- ↕ Paseos
- ↔ Pedestrian/Bicycle Bridges
- ⊙ Regional Gateways
- Neighborhood Gateways
- ⊞ Infrastructure Gateways
- ⊞ Bridge Underpasses
- OC River Outdoor Classrooms
- PP Street-End Cul-de-sac Parks
- Promenades
- Expanded Trails (Multi-Use & Bicycle)
- Multi-Use Trail Corridor
- Bike Path Corridor



Open-Space Typology Map - A system of green connections provides safe ways to the River from home.



Future - The River Greenway cuts along the southern edge of the proposed Riverfront Park that extends north to Sherman Way within the former landscape material yards, providing much needed open space in a park-poor area.



Existing - Looking south towards the River existing industrial uses separate the landscape material yards from the residential users to the east. (2006)



Future - Looking down the same back lane a landscaped Paseo within the redeveloped industrial area provides direct open space connections between residents and the River.

that celebrates the revitalized River. The Plan recommends that the extension of the proposed Orange Line consider locating a stop here to improve open space access for many households in the region that lack cars.

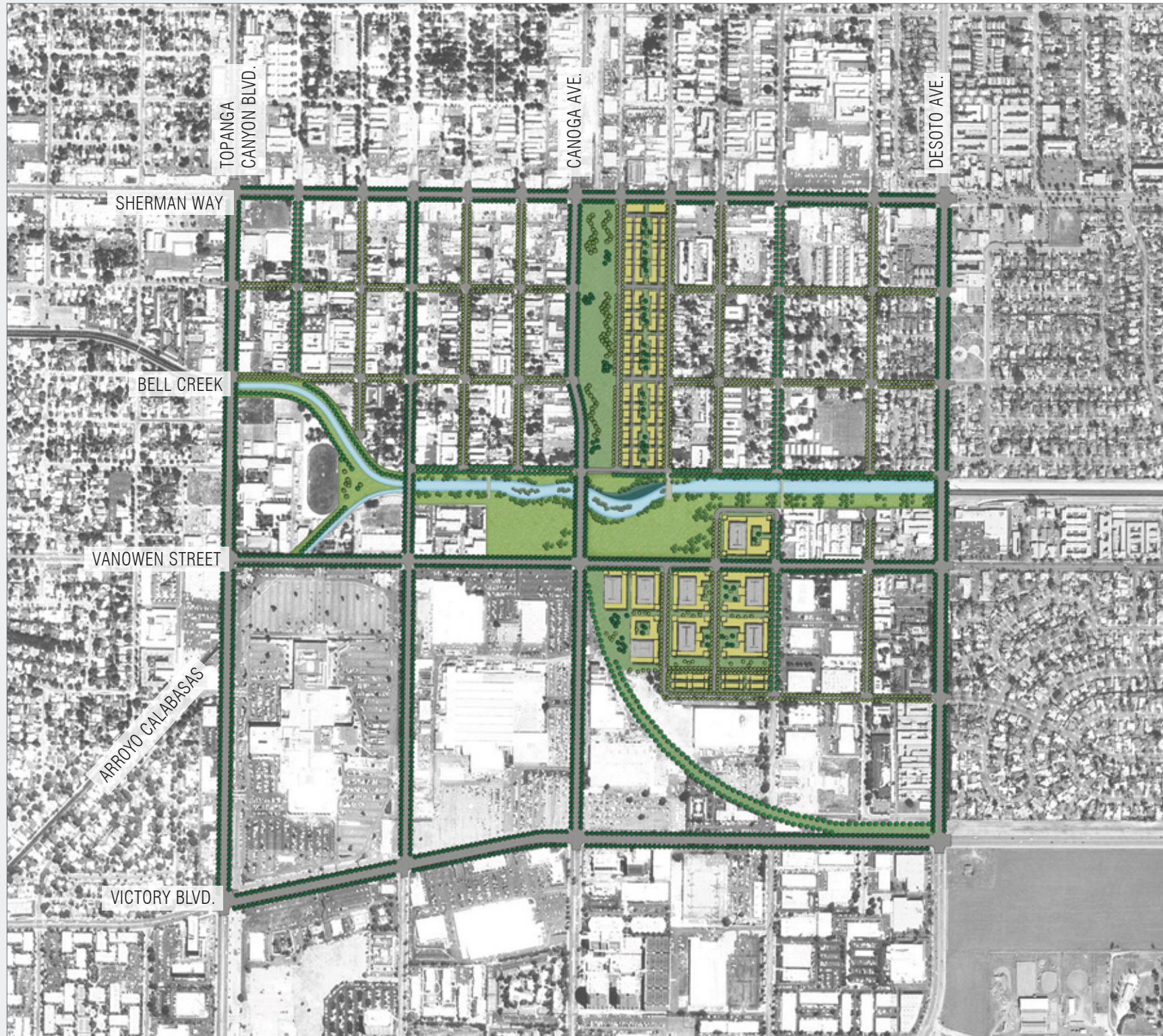
Within the proposed Riverfront Park, existing educational facilities near the River, such as the animal/agricultural area that is an extension of the Canoga Park High School, could be incorporated into the proposed plans for the Opportunity Area and retained as a special education area.

Access to the River from existing neighborhoods on the north side is served primarily through an enhanced network of Green Streets that intersect directly with the River. These Green Streets – with shady, tree-lined sidewalks that provide a comfortable walking experience – provide safe connections from homes and schools to the park. A series of Paseos provide strong pedestrian connections from new businesses and retail areas, so shoppers and workers can enjoy a lunchtime stroll along the River.

Additional bike paths, street trees, biofiltration strips, and River-themed elements create comfortable, safe connections and bring the character of the River into the neighborhoods. New developments are connected with pedestrian-oriented Paseos, some of which may include commercial Promenades. Access across the River is enhanced by mid-block Bicycle and Pedestrian Bridges that also serve as iconic elements in the park system.

Enhanced pedestrian and bicycle facilities on the Arterial Green Streets connect the area with regional amenities, including Pierce College, the Orange Line, and the Orange Line bike path. The River Greenway, a continuous, multi-use pathway with underpasses beneath crossing streets, connects with the Los Angeles River Bike Path and recreational trail system, completing multiple recreational loops.

# CANOGA PARK: SECONDARY ALTERNATIVE (ALT. A)



## RIVER-EDGE IMPROVEMENTS

This alternative is very similar to the preferred option, except it would provide a smaller park area, and, as a result, would forego the opportunity for re-creating the Arroyo Calabasas as an open channel.

Like the preferred alternative, this scenario would restore functional riparian habitat within the River channel and along its banks. The River edge would be naturalized to create a more sinuous, meandering experience. A rubber dam would again be employed to create a small, ponded area.

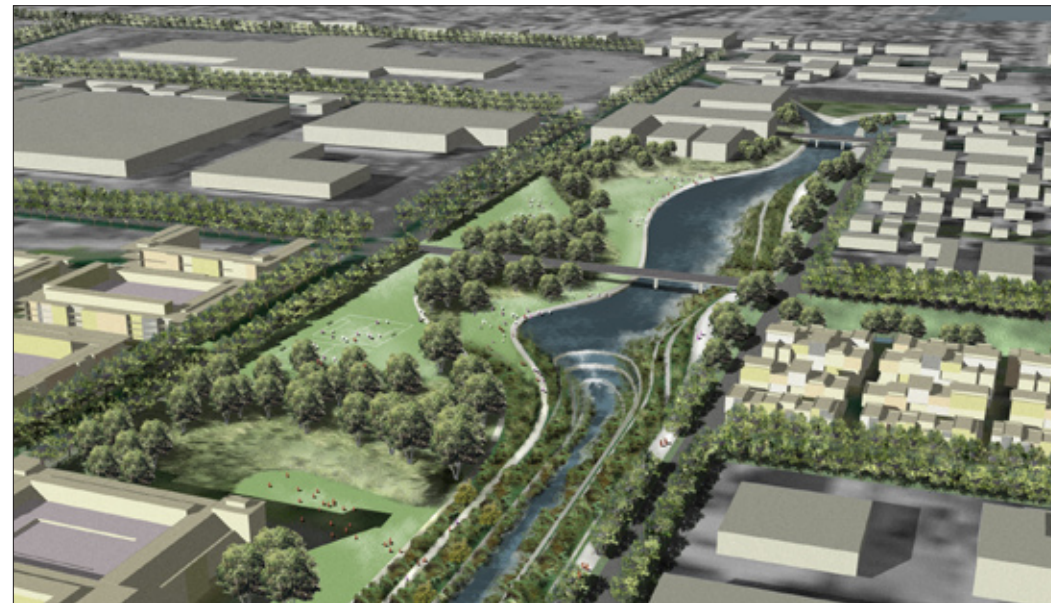
As with the preferred alternative, water quality terraces would be introduced within the channel, with bioinfiltration green strips at the top of the bank, allowing treatment of stormwater flows and enhancing habitat value. A system of ramps and steps would provide public access to the water's edge.



Existing - Looking south along Variel Avenue towards the River near an elementary school (2006)

## OPEN SPACE AND CONNECTIVITY

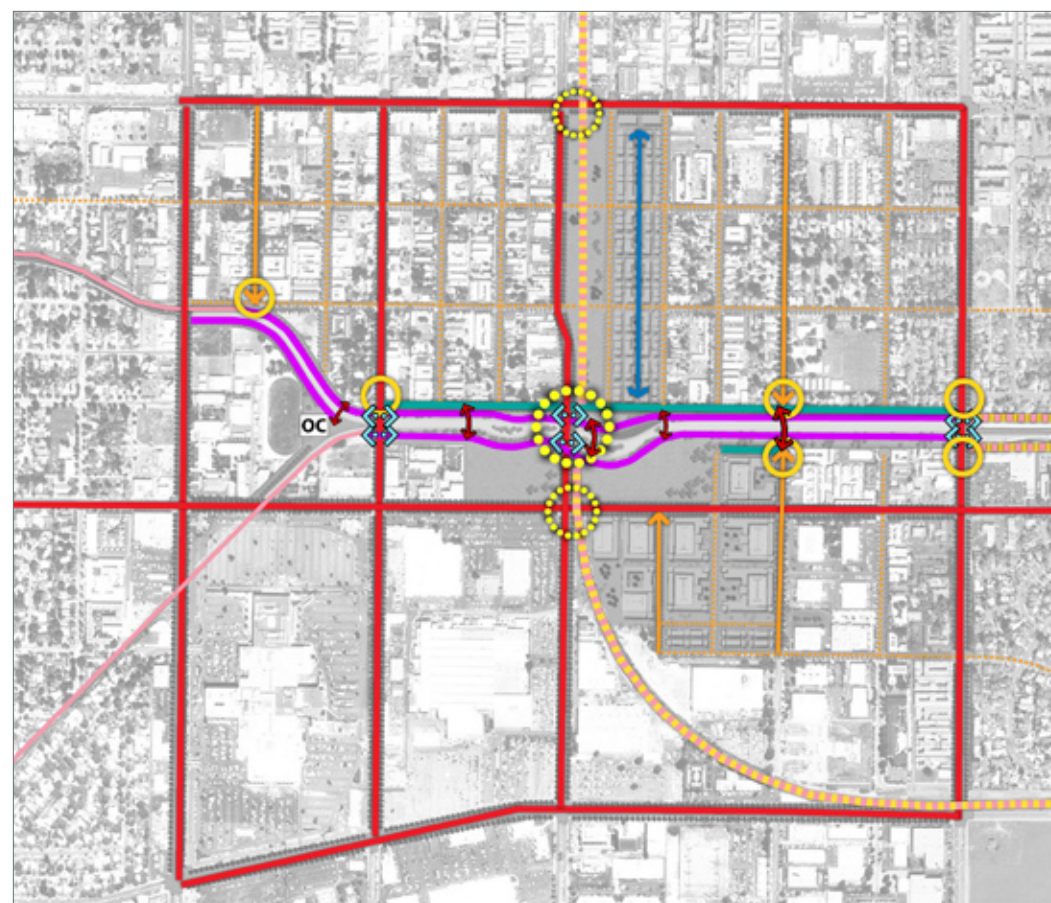
In this alternative, the only difference from the preferred is that no Paseo connections are proposed on the south side of the River, because the park on the south side would be smaller. Connectivity improvements are otherwise identical.



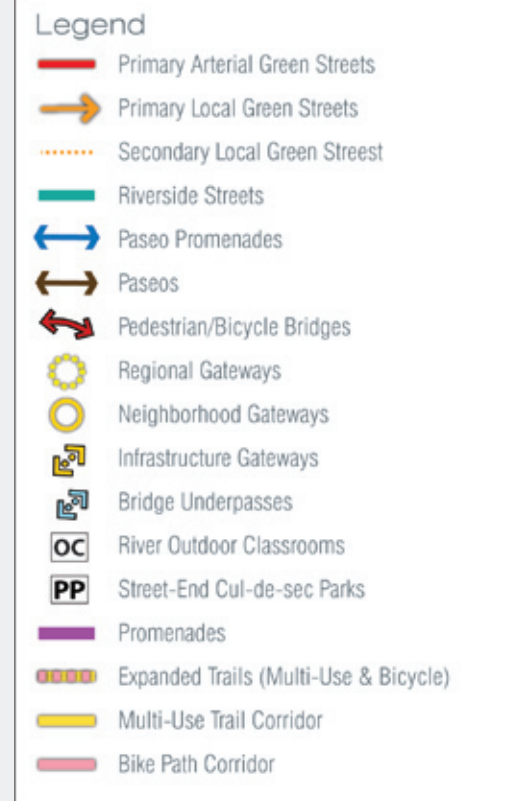
A new Riverfront Park provides opportunities to get to the water's edge.

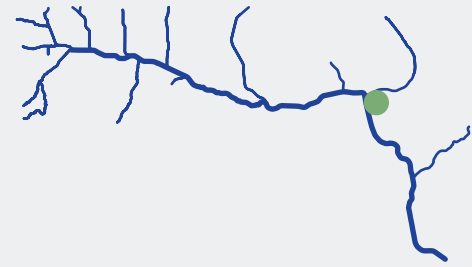


Future - A reconfigured Variel Avenue provides an improved pedestrian environment and vegetated bioswales and porous paving to treat street runoff before it is dispersed into the River.



Open-Space Typology Map





# RIVER GLEN: OPPORTUNITY AREA

## EXISTING CONDITIONS

*The River Glen Opportunity Area demonstrates the type of revitalization that may be possible within heavily-industrial areas. Located at the confluence of Verdugo Wash, it also demonstrates the potential of regional-scale water quality treatment facilities and the potential to augment significantly the ecological function and habitat value in this area.*

River Glen, bounded by the Los Angeles River, the confluence of Verdugo Wash to the north, San Fernando Road to the east, and Colorado Street to the south, is characterized by industrial, biomedical, and film/studio-related land uses. Once an area occupied by low-rent businesses, it now is poised to become the premier eco-industrial park in the City.

Along the River's edge, the River Glen area includes a mix of service-related uses, rear building façades, and security fences -- conditions that should be addressed as Community Plans for this area are revisited. Three distinct sub-areas can be defined, based on the quality of building stock and stability of current land use. The most stable of the areas is between Colorado Boulevard and one half-block south of Brazil Street, and is occupied by large employers, such as Baxter, Huntsman Advanced Materials Americas Inc., Quixote Studios, and Kaiser Permanente, which for the purposes of this Plan are viewed as long-term and stable job creators for the area.

The second area, between Brazil Street and one-half block south of Doran Street, contains land uses comprising light-industrial and warehouse-type facilities including Levitz Furniture, a used car dealership, and the Priority Pak Shipping Facility. Within this area, the dominant pattern is consolidation of multiple parcels into single ownership, resulting in large-format warehouse buildings that wall off the River on its eastern edge.

The third and most susceptible area of potential change is the area's northern boundary, which includes an assortment of metal and paper recycling facilities, and a California



top - San Fernando Road and the Metrolink commuter rail line limit access into the industrial area. (2006)  
 middle - Verdugo Wash at the confluence with the River, with the Ventura Freeway and the recycling facilities to the south (2006)  
 bottom - Existing road network does not meet the needs of current land uses. (2006)



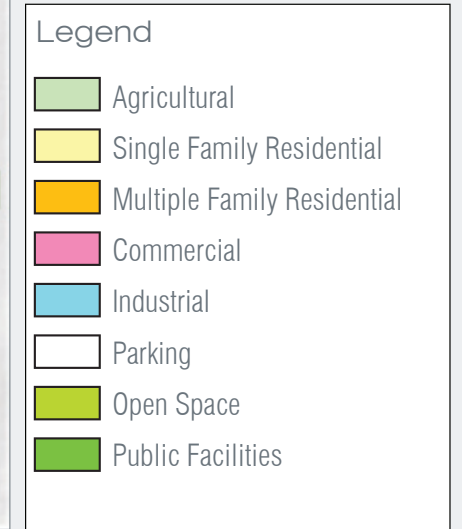
The River Glen area is isolated from adjoining uses by large infrastructure barriers, such as San Fernando Road, the Metrolink, and the Ventura Freeway. (2006)

Department of Transportation (Caltrans) maintenance facility located directly below Interstate 134. Although functional and environmentally-beneficial in intent, these facilities produce surface runoff and trash accumulation south of the confluence of Verdugo Wash and the River. As development in this area evolves, relocation of these uses to another site with less environmental and physical impacts should be considered.

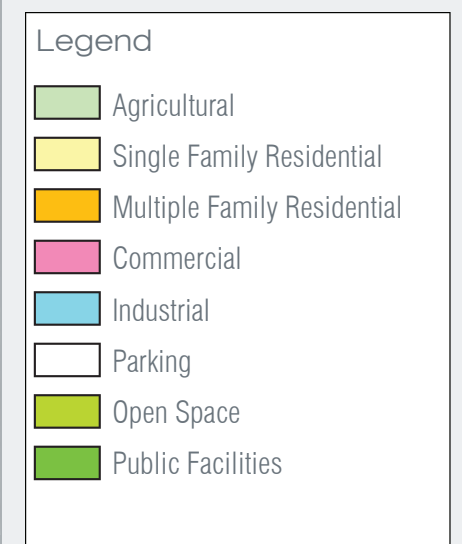
A major priority for this Opportunity Area is safe access to the River. The San Fernando Road and Metrolink Rail corridor both act as barriers between the River and the City of Glendale to the east. There are only three access points along San Fernando Road. The dangerous Doran Street and Brazil Street at-grade crossings experience frequent circulation delays as a result of the Metrolink Rail service. The grade-separated crossing at Colorado Boulevard is a safer intersection, but provides access only to the south.



Existing Zoning



Community Plan - Land Use



# RIVER GLEN: PREFERRED ALTERNATIVE (ALT. A)



Preferred Alternative including, the “State Route 134/San Fernando Road Interchange Project (Including Fairmont Avenue Flyover)” approved project scheduled for completion in 2009-2010

## IMAGINE A REVITALIZED RIVER!

Formerly hidden behind a metal-recycling facility in the shadows of the freeway, the confluence of Verdugo Wash and the Los Angeles River has been re-created as a system of riparian terraces that restore ecological function while treating stormwater runoff from adjacent roads, and from the new, eco-industrial park that provides high-paying jobs for neighborhood residents. Downstream of the confluence, vegetation in the soft-bottom channel is now managed so that invasive species are removed and native species are reintroduced.

## RIVER-EDGE IMPROVEMENTS

The vision for the River Glen Opportunity Area’s Alternative A, which calls for the acquisition of the metal-recycling facilities, allows for its transformation into almost 15 acres of new, functional, riparian habitat and water quality treatment wetlands that terrace gently from Doran Street down to Verdugo Wash.

The water quality wetlands are part of the City’s comprehensive stormwater management strategy, which establishes regional-scale, landscape-based treatment



Visitors enjoy a wonderful new open space park at Verdugo Wash, just south of the 134 Freeway.



Water quality treatment at the confluence of Verdugo Wash and the Los Angeles River demonstrates a regional-scale approach to treatment.

at the River's confluence with each tributary. This 15-acre site has the potential for removing significant quantities of metals and nutrients, such as fertilizers, carried in stormwater runoff. From an efficiency standpoint, sites of this size are quite valuable. Also, because the tributaries carry significant pollutant loads, capturing and treating pollutants upstream in the tributary as well as at the confluence yields substantial ecological benefits.

The reestablishment of large wetland and riparian habitat zones at the confluence also reconnects upstream and downstream habitat within the River to very significant habitat zones further upstream in Verdugo Wash and the Verdugo Mountains. Many species of shorebirds, swallows, wrens, and grosbeaks are now observed in this area.

The new natural area now welcomes birdwatchers and hikers where undesirable human activities once took place. A series of boardwalks and overlooks wind through the wetlands; these human-use areas are carefully buffered from shorebird nesting and feeding areas to minimize disturbance. Visitors are able to reach this new natural-area park from an improved Doran Street crossing.

The western bank of the River has always been one of the few places that the River has been visible from a major roadway or freeway, in this case Interstate 5. Motorists traveling northbound on the freeway now have an expansive view of the wetlands and natural area, and where they previously looked upon a graffiti-covered concrete wall, they now see lush areas of hanging vines.

This recommended alternative for the River Glen Opportunity Area has been developed to respond to area-specific considerations including:

- An opportunity to demonstrate regional water quality treatment at a major tributary confluence; and on a scale that provides significant efficiencies and benefits;
- A major opportunity to reestablish riparian habitat that would start to connect the riparian "islands" downstream of the confluence with significant habitat upstream within Verdugo Wash;
- An opportunity to provide safe and compatible public access to the natural-area park, providing "eyes on the park" that discourage undesirable behavior.

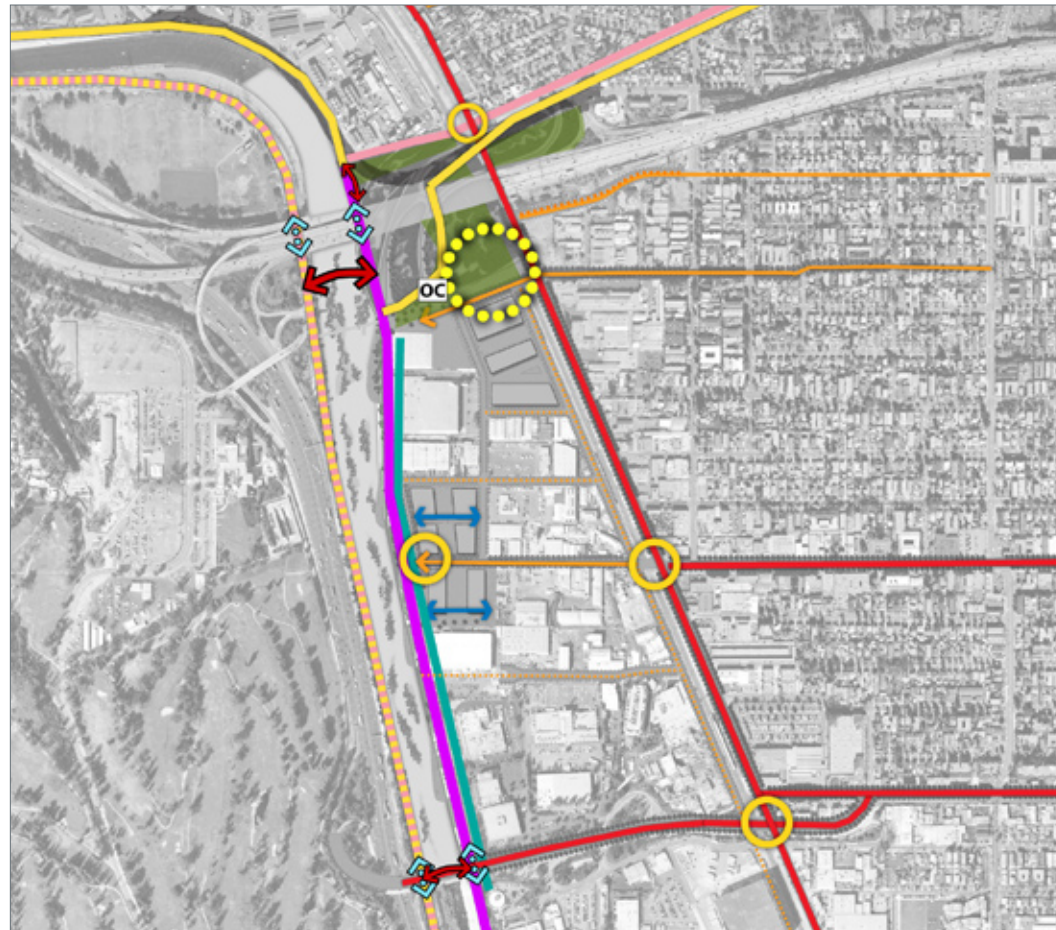
## OPEN SPACE AND CONNECTIVITY

With this creation of a new River Wetland Park and Promenade, safe connections and improved pedestrian and bicycle facilities are provided to help users navigate the area's existing barriers. Much-needed connections are also made across the River to Griffith Park.

The large River Wetland Park now marks the confluence of the Verdugo Wash and the Los Angeles River, under the 134 Freeway Bridge. The park, which has become a major hub along the River Greenway, connects with recreational trails along the Verdugo Wash, serves as a regional Gateway, and provides a non-vehicle bridge across the River into Griffith Park.

**Legend**

- Primary Arterial Green Streets
- Primary Local Green Streets
- ⋯ Secondary Local Green Street
- Riverside Streets
- ↔ Paseo Promenades
- ↕ Paseos
- ↔ Pedestrian/Bicycle Bridges
- ⊙ Regional Gateways
- Neighborhood Gateways
- ⊞ Infrastructure Gateways
- ⊞ Bridge Underpasses
- OC River Outdoor Classrooms
- PP Street-End Cul-de-sec Parks
- Promenades
- ↔ Expanded Trails (Multi-Use & Bicycle)
- Multi-Use Trail Corridor
- Bike Path Corridor



Open-Space Typology Map - A system of green connections provides safe ways to get from home to the River.



Existing - An existing River maintenance road and storage area behind Levitz Furniture, just south of the recycling facilities at Verdugo Wash. (2006)



Future - A revitalized Los Angeles River Greenway, with an expanded linear open space, south of the improved River Wetland Park at Verdugo Wash.



Existing - An expansive Broadway and San Fernando Road intersection is unsafe for vehicular and pedestrian traffic. (2006)



Future - An improved intersection at Broadway and San Fernando creates a safer pedestrian crossing with landscape buffers next to the MetroLINK rail line providing an area of respite.

Improved, safe crossings across San Fernando Road, and across the existing railway line connect the surrounding Glendale and Burbank neighborhoods with the new riverside amenities. The City of Los Angeles has ongoing discussions with both the cities of Glendale and Burbank to facilitate the future creation of these bike path connections. Brazil Street becomes an important access point. At the intersection with the newly greened San Fernando Road, a Local Gateway improves River access and visibility.

River Green Streets, such as Millford, West Broadway, Highland, and Colorado, celebrate the River and serve as connections for local and regional users. Paseos create access through new and existing development next to the River. Streets throughout the industrial area are planted with trees and improved to allow industrial users and residential users from nearby areas safe access to the River.

Two River crossings are provided in an area with the least cross-River access. A signature bridge is proposed at the River Wetland Park, connecting to Griffith Park and providing equestrian access. The Colorado Street Bridge is also proposed to be retrofitted to allow pedestrians and bicyclists to cross the River and freeway, with access to the west bank bike path and Griffith Park. These two bridges together complete a local recreation loop accommodating multiple user types, including equestrians traveling between the equestrian center and the North Atwater area.

# RIVER GLEN: SECONDARY ALTERNATIVE (ALT. B)



Secondary Alternative including, the "State Route 134/San Fernando Road Interchange Project (Including Fairmont Avenue Flyover)" approved project scheduled for completion in 2009-2010

## RIVER-EDGE IMPROVEMENTS

Alternative B also would purchase the 15-acre metals-recycling site for a combination of ecosystem restoration improvements, water quality treatment areas, and parkland. Within the confluence, and again downstream, a functioning riparian corridor would be established in the channel bottom and on the lower terraces. Existing vegetation would be managed to eliminate invasive species and restore indigenous ecologies. A large, terraced water quality treatment area would also be established, similar to the preferred alternative.

A neighborhood-scale park space would be created at the highest terraced elevation, accommodating residents from the neighborhoods to the east. An additional 200 feet of green space frontage would be provided on the east bank of the River through property acquisition or donated easements. This additional space would allow the reconfiguration of the channel walls to provide terraced access to the water's edge.



Existing - Conditions along Exchange Street in the River Glen Opportunity Area do not meet the circulation needs of this industrial area. (2006)

## OPEN SPACE AND CONNECTIVITY

On the east side of the River, a Riverside Street and River Promenade are created to serve the new River Park and encourage access to the water's edge. These systems parallel the existing equestrian path and ensure that horses, pedestrians, and bicyclists are safely separated from one another. A bridge provides equestrian access near the confluence, connecting to Griffith Park. Green Street and Paseo connections are similar to those in the preferred alternative.

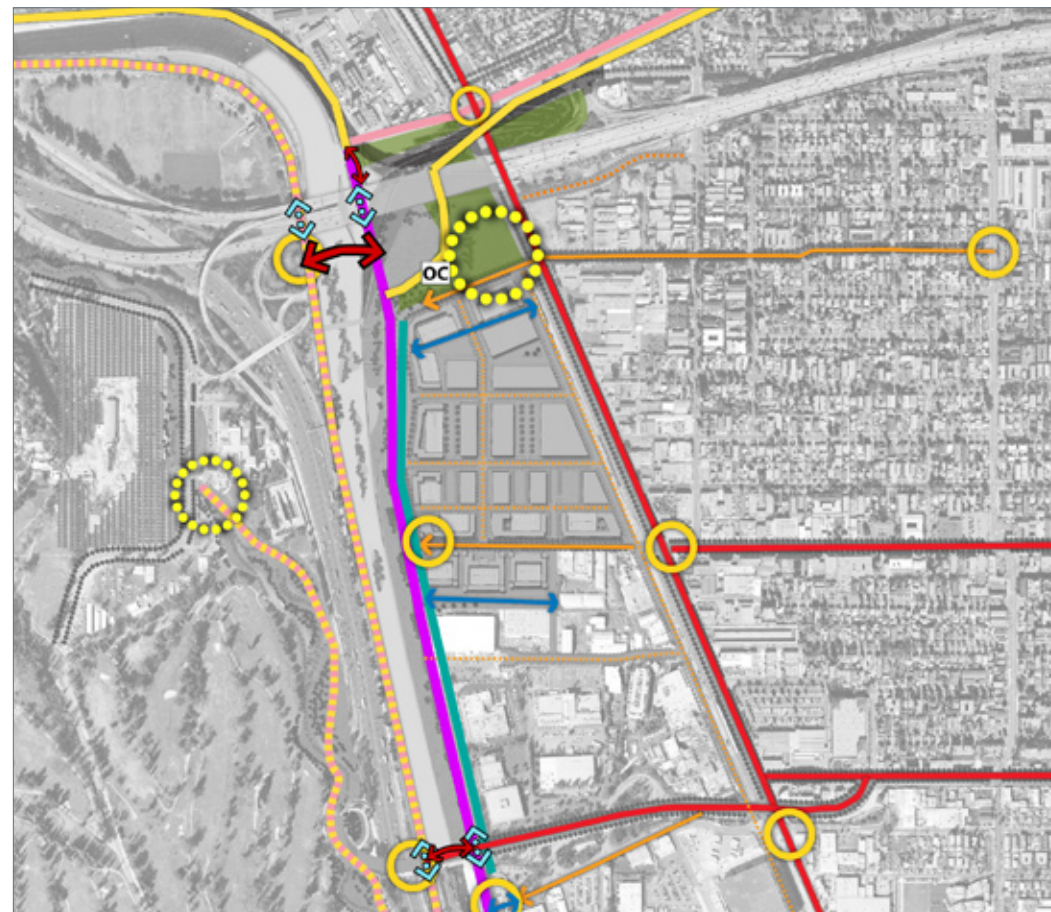
An improved open space is also created on the west side of the River, parallel to Interstate 5 and the River. This open space runs from the Los Angeles Zoo and Autry National Center to a River crossing at Colorado Boulevard. This expanded park space creates a connection between the River and Griffith Park, otherwise separated by Interstate 5. Trails and educational elements are included along the meandering Arroyo.



Future - In both alternatives, an improved Exchange Street and new industrial uses improve circulation and provide internal green parking lots.



A new Riverfront Park provides water quality treatment for Verdugo Wash.



Open-Space Typology Map

**Legend**

- Primary Arterial Green Streets
- Primary Local Green Streets
- ⋯ Secondary Local Green Street
- Riverside Streets
- ↔ Paseo Promenades
- ↕ Paseos
- ↕ Pedestrian/Bicycle Bridges
- ⊙ Regional Gateways
- ⊙ Neighborhood Gateways
- ⊙ Infrastructure Gateways
- ⊙ Bridge Underpasses
- OC River Outdoor Classrooms
- PP Street-End Cul-de-sec Parks
- Promenades
- Expanded Trails (Multi-Use & Bicycle)
- Multi-Use Trail Corridor
- Bike Path Corridor



# TAYLOR YARD: OPPORTUNITY AREA

## EXISTING CONDITIONS

*The Taylor Yard Opportunity Area demonstrates a significant opportunity for ecosystem restoration on a large scale. Because stakeholders and many community members expressed that this area is inappropriate for more intensive development, and active open space is being incorporated into the Rio de los Angeles State Park to the east, this Opportunity Area was selected to illustrate the potential for restoration of the River's hydroecological functions, and as a showcase for removing the concrete channel walls.*

Taylor Yard lies within the Elysian Valley, framed by the hills of Elysian Park on the west and Mount Washington on the east, extending from Fletcher Drive to the confluence with the Arroyo Seco. Vegetation and wildlife already inhabit much of this meandering stretch of the River. With the recent development of the Río de Los Angeles State Park and the potential purchase of the G2 River-adjacent parcel, this segment of the River could become a signature destination.

Along the east side of the River, next to Taylor Yard, freight and Metrolink railroad tracks and large industrial sites limit access to the River. With the exception of one rail under-crossing located just south of the new state park, there is no access to the River. North San Fernando Road, a heavily-trafficked thoroughfare, divides the line of large parcels from the adjacent suburban communities of Glassell Park and Cypress Park. Crosswalks spanning the six-lane road are provided only north of Division Street. The River Center, located within Cypress Park, is close to the River, but separated from it by the railroad yards.

On the west side, the residential community of Elysian Valley is intimately connected to the River. Most east-west neighborhood streets terminate with direct access to the River, some with River-themed pocket parks. Small industrial sites have occupied some street ends, blocking access to the River. Plans are currently underway to build a bicycle and pedestrian bridge across the River at the end of Dorris Place, where a City maintenance yard now exists.



Taylor Yard is bordered on the northeast by San Fernando Road, and on the southwest by the River. (2006)

West of Elysian Valley, Interstate 5 and steep topography limit access to the River to a handful of streets, which provide minimal amenities for bicyclists or pedestrians. Non-motorized vehicle access from Elysian Park is particularly limited due to the lack of paths or trails along Stadium Way. Fletcher Drive, the only street that links the east and west sides, is heavily used and difficult for pedestrians and bicyclists who must contend with the street's high-speed traffic and freeway ramps. With the completion of Phase 1-C, the City's Los Angeles River Bike Path will terminate near the Riverside Drive Bridge. Just south of this area, the combination of an at-grade railroad bridge and the crossing of the 110 Freeway inhibits the continuation of River trails. South of these bridges, at the confluence with the Arroyo Seco, an opportunity exists to link the River with the extensive trail and open space systems along the Arroyo Seco.

There are a number of immediate opportunities to acquire land for open space. The G2 parcel represents a significant open space opportunity (if it could be acquired). Others include publicly-owned parcels near the Arroyo Seco confluence, and the temporary site of the Midway Yards, a Metro rail yard along Elysian Park.



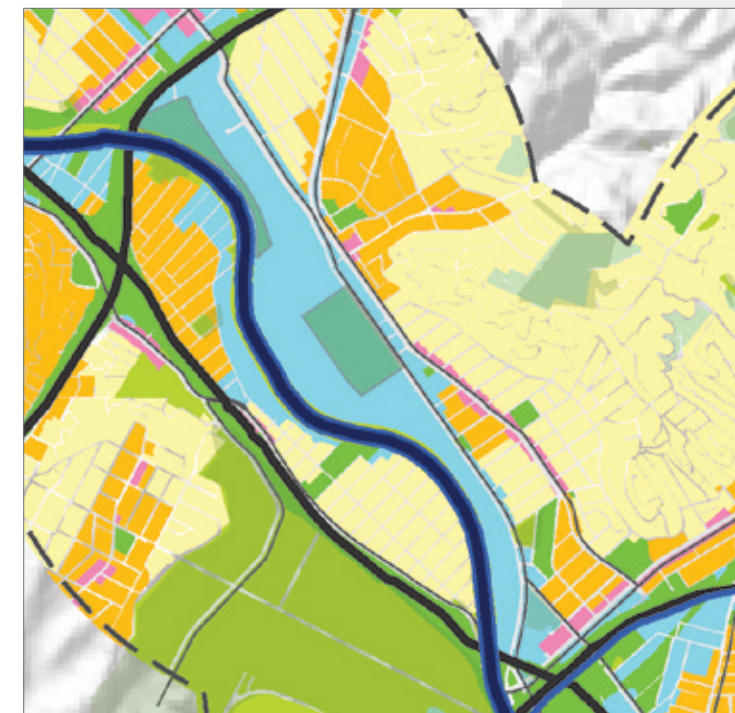
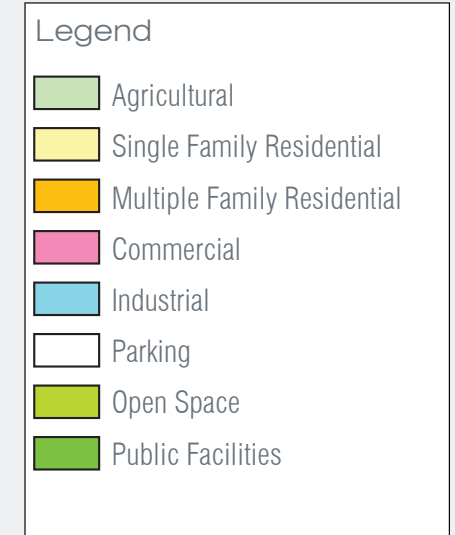
top - Media Center Drive (2006)

middle - Existing soft bottomed segment of the Los Angeles River (2006)

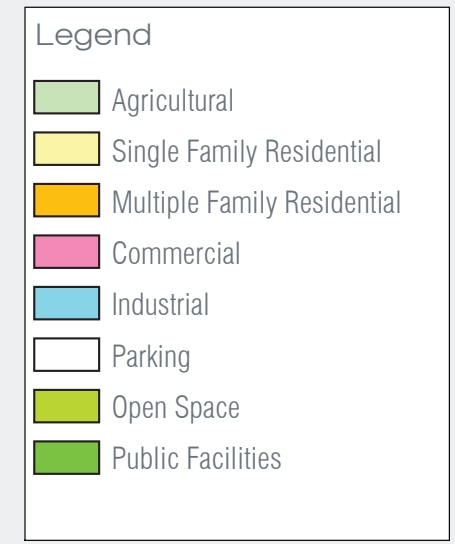
bottom - Existing industrial facilities at the north end of the Opportunity Area. (2006)



Existing Zoning



Community Plan - Land Use



## TAYLOR YARD: PREFERRED ALTERNATIVE



### IMAGINE A REVITALIZED RIVER!

*Taylor Yard was one of many former rail transportation nodes along the River and its degradation through the end of the last century illustrates just how much the River had been viewed as the back door of the City. Now, however, it has experienced a renaissance with the opening of the new Río de Los Angeles State Park and the potential acquisition of the G2 parcel for a major water quality treatment wetlands. And, in perhaps the boldest act of restoration, it serves as a precedent for very long-term changes to the River. The concrete has been removed from a roughly one-mile stretch along the east bank, and a naturalized channel edge and functioning riparian corridor has been reestablished.*

### RIVER-EDGE IMPROVEMENTS

The Plan's vision for Taylor Yard is based on the following scenario: the G2 site was heavily contaminated from past rail uses. To make it functional, contaminated soils can be excavated from the area next to the River's edge and used to create a series of mounded, sculptural landforms that support an upland, meadow-like landscape. The excavated area will be capped to prevent infiltration of contaminants into the groundwater, and a series of water quality treatment wetlands can be constructed on top of the cap, using imported soils that were stabilized to prevent erosion from the force of flood flows. This large site can be a very efficient regional water quality treatment facility, capturing runoff from very large box culverts that transport stormwater runoff that emerges from pipes in Glassell Park.

The purchase of the G2 parcel would provide sufficient land area to naturalize the east bank of the River, and to strengthen riparian habitat established within the channel itself. For a one-mile stretch, the concrete walls can be removed, and a more natural meander can be restored in the River's alignment. A series of pools and riffles can provide habitat for desirable fish species. Because the site is viewed primarily as a preserve, only a limited number of boardwalks and pathways should be provided, allowing birdwatchers an opportunity to enjoy the area without disturbing shorebirds and migratory songbirds.



Looking southeast from above the Elysian Valley community at the Taylor Yard Opportunity Area, the site illustrates the potential for restoring the River's hydroecological function.

This recommended alternative for Taylor Yard has been developed to respond to a number of area-specific considerations:

- An opportunity to demonstrate regional-scale water quality treatment, and to address major storm drains that discharge on the east edge of the site;
- An opportunity to create a cost-effective, beneficial use for a contaminated site, without more extensive capping and soil importation that might be necessary to make it safe for more intensive recreational uses; and
- A significant opportunity to take a bold step to remove the concrete and naturalize a significant stretch of the River's edge.



Existing - Avenue 19 bridge over the Arroyo Seco under construction (2006)




















Future - A new pedestrian bridge and possible in-channel Avenue 19 Bridge undercrossing connect the Arroyo Seco with the Los Angeles River Greenway.

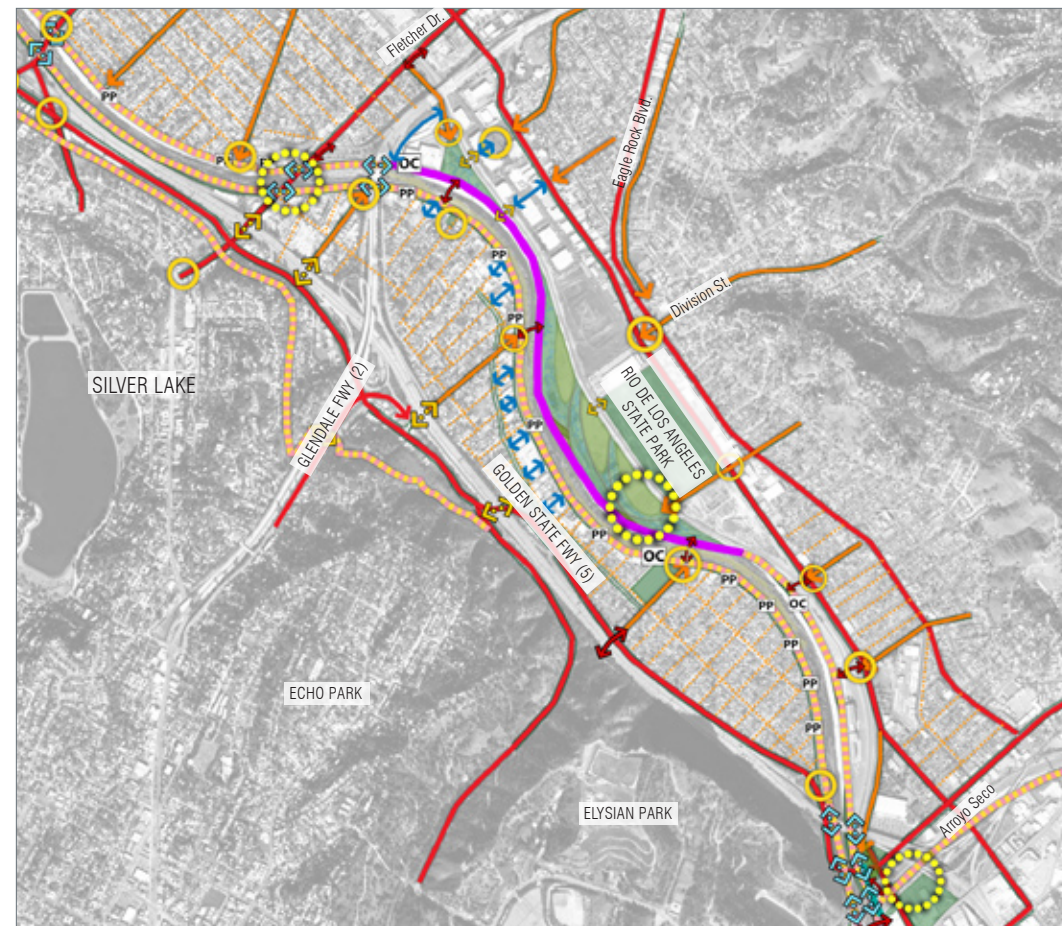
## OPEN SPACE AND CONNECTIVITY

The acquisition of the G2 parcel would allow for the creation of a premier natural River area. A River Promenade and River Trails can connect the area's open space, and link the Arroyo Seco, Elysian Park, and the Red Car Corridor trails. At the confluence with the Arroyo Seco, a Regional Gateway can celebrate the connection with the Arroyo and its rich network of trails and open space. River trails continue south of the Opportunity Area on both sides, using the designed pedestrian sidewalks on the Avenue 19 bridge and moving under the 110 Freeway and the railroad bridge just south of the Riverside Drive bridge. Fitness and transportation loops in this area can connect the River with Elysian Park, the Red Car Corridor, and with the Arroyo Seco Confluence.

The neighborhoods east of the railway lines can be connected to San Fernando Road via local green connections. San Fernando Road can be greened and improved with

**Legend**

-  Primary Arterial Green Streets
-  Primary Local Green Streets
-  Secondary Local Green Street
-  Riverside Streets
-  Paseo Promenades
-  Paseos
-  Pedestrian/Bicycle Bridges
-  Regional Gateways
-  Neighborhood Gateways
-  Infrastructure Gateways
-  Bridge Underpasses
-  River Outdoor Classrooms
-  Street-End Cul-de-sac Parks
-  Promenades
-  Expanded Trails (Multi-Use & Bicycle)
-  Multi-Use Trail Corridor
-  Bike Path Corridor



Open-Space Typology Map - A system of green connections provides safe ways to get from home to the River.



Existing - Termination of Dorris Place just north of the River (2006)



Future - By transforming dead ends into points of entry, residents of Elysian Valley can access the River Greenway. Non-motorized bridges provide residents access to parks on the far side of the River.



Existing - Fletcher Drive looking north towards the River (2006)



Future - A reconfigured Fletcher Drive provides new bike lanes, water quality bioswales, and an improved pedestrian environment.

safer and more frequent pedestrian crossings. Paseos with artistic Gateways can provide access through the large industrial sites just east of San Fernando Road. On average, cross-traffic connections could be made at least every quarter-mile. A former maintenance right-of-way just south of the Glendale Freeway also can be transformed into a Paseo, creating a safe connection for neighborhoods just north.

Connectivity to Elysian Valley can be improved with a series of Paseos that traverse the industrial parcels that border the River. Here, the right-of-way can be recaptured to allow pedestrian access to the River at least every quarter-mile, and additional pocket parks are provided along the River's edge. At Dorris Place, a bicycle and pedestrian bridge can connect the neighborhood and local schools to the new parks across the River. At the base of the bridge, a new small park can serve local community needs and can act as a Green Gateway. Two additional Bicycle and Pedestrian Bridges can cross the River, connecting communities to the parks and completing fitness and transportation loops.

Bicycle and pedestrian facilities on Fletcher Drive can be improved to accommodate its important role as a vital east-west crossing and access route to the River from the communities to the west. Bike lanes on the streets and bridges can connect to the existing Los Angeles River Bike Path and provide a safe route for local school children. Fletcher Drive crossings at the freeway on and off ramps can be made safe with signals or bridges. Widened sidewalks and medians can calm the busy thoroughfare. Additional Gateways can mark access points to River Trails, and raise awareness of the River.

Access to the Elysian Park and Echo Park communities can be improved by a set of east-west connections. Corresponding to the Elysian Park Master Plan, a trail and bike path can be added to Stadium Way, continuing under Interstate 5 and into the Elysian Valley community on a Primary Green Street with a Gateway. Access and recreational opportunities on the west side can be improved by trails on the Red Car Corridor (see map on page 6-24), which together with the River trails, form a unique fitness and transportation loop.



Existing - Access road from San Fernando Road towards the Los Angeles River. (2006)



Future - A new green street and infrastructure gateway link the Río de Los Angeles State Park with the revitalized River.



## CHINATOWN-CORNFIELDS AREA: OPPORTUNITY AREA

### EXISTING CONDITIONS

*The Chinatown-Cornfields Opportunity Area demonstrates a very broad spectrum of revitalization activities that could be accomplished with significant land acquisition. The Opportunity Area also provides a bold approach to ecosystem restoration and habitat expansion, and provides opportunities for water based recreation.*

Bounded by the site of the Los Angeles State Historic Park (LASHP), the Los Angeles River, the Union Station rail line, and the Gold Line, the Chinatown-Cornfields Opportunity Area boasts grand views of Downtown and the River from the historic bridges on Broadway, Main, and Spring streets. Along its eastern River edge, the area is completely cut off from the River because of existing heavy rail lines, and the temporary Metro rail yards north of LASHP.

The Department of Water and Power facility and the William Mead housing development combine to make up about 40 percent of the entire Opportunity Area. The remaining 60 percent is composed of a series of light industrial and manufacturing facilities, commercial food warehousing and distribution facilities, and large-vehicle parking lots.

Existing building character generally varies from block to block, with small pockets of historically significant and aesthetically beautiful structures interspersed throughout the Opportunity Area.

At the area's western edge is the LASHP. When completed, this park will provide a catalyst for transforming development along its edge. As the Plan begins to transform the River and the LASHP is implemented, development pressure from Downtown, Chinatown, and the Gold Line station will increase.

The existing road network, while lacking pedestrian amenities, provides local and regional connections into Downtown, Chinatown, and Boyle Heights. With new connections to Elysian Park and the adjoining Solano Canyon neighborhood to the north, and an improved pedestrian environment linking Downtown and Chinatown to the southwest and Boyle Heights to the east, this Opportunity Area can become the open space and recreational hub for the region.



top - William Mead housing development and the Department of Water and Power facility make up 40 percent of the Opportunity Area. (2006)

middle - The Los Angeles State Historic Park could entice dramatic reinvestment along Spring Street. (2006)

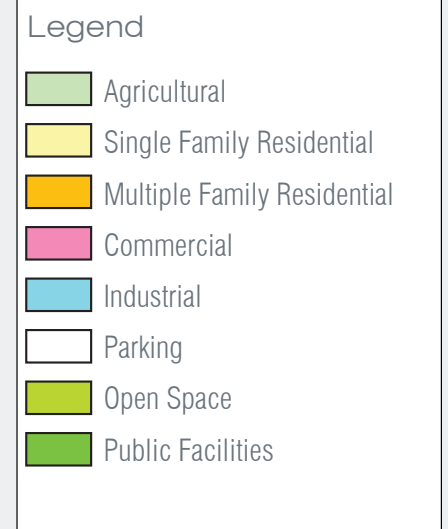
bottom - The William Mead housing development along Main Street. (2006)



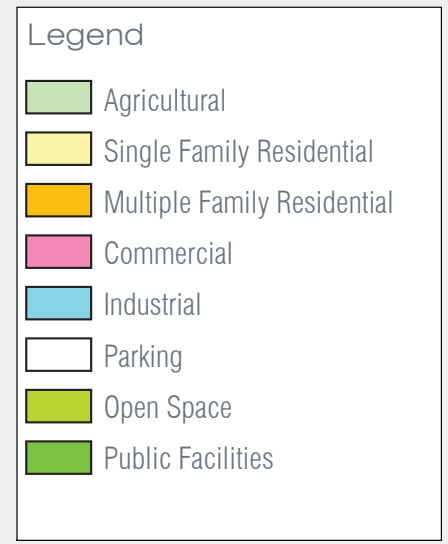
Existing rail lines separate the Department of Water and Power North Main Street facility from the River's edge. (2006)



As the location for the Los Angeles State Historic Park, Downtown, and a revitalized River provide a unique opportunity to create a riverfront community. (2006)



Existing Zoning



Community Plan - Land Use

# CHINATOWN-CORNFIELDS AREA: PREFERRED ALTERNATIVE (ALT. B)



## IMAGINE A REVITALIZED RIVER!

Where it was formerly hidden at the “back” of the neighborhood, the River is now the central feature of a revitalized Cornfields-Chinatown Area. A portion of the River’s flow has been diverted through a naturalized channel, creating opportunities for water-based recreation, and the construction of a large island “preserve” that significantly expands riparian habitat.

## RIVER-EDGE IMPROVEMENTS

The River is the main attraction in this neighborhood. Its volume and steepness through this reach has allowed for the creation of a secondary “diversion” channel that creates recreational access and use. On most weekends in good weather, kayakers in great numbers flock to this area for a chance to paddle in the River. Downstream of the kayak course, an inflatable rubber dam creates a small, ponded area.

Complementing this new recreational stretch of the River is a 20-acre community park and amphitheater. This parkland and River edge form the heart of a vibrant, emerging, mixed-use community. The small amphitheater along the diversion channel slopes to a stage at the water’s edge, providing a venue for summer evening concerts, while an extensive system of trails through the park provide opportunities for early-morning or after-work jogs.



A new channel with a ponded area created by installation of a rubber dam, provides an opportunity for relaxing along the River’s edge.



Looking north from the Mission Road Rail Yards, the proposed changes in the Opportunity Area incorporate a diversion channel that provides for recreational access and use, as well as a habitat island that provides refuge for riparian and upland species.

This new River edge also emphasizes re-establishment of habitat; an island is created between the main River channel and the diversion, and is thick with willows, sycamores, and other native species. Public access is provided to the island at two points for

passive recreation, picnics, and birdwatching, but otherwise the island is maintained as a preserve for wildlife. The Department of Water and Power's substation has been relocated from this area.

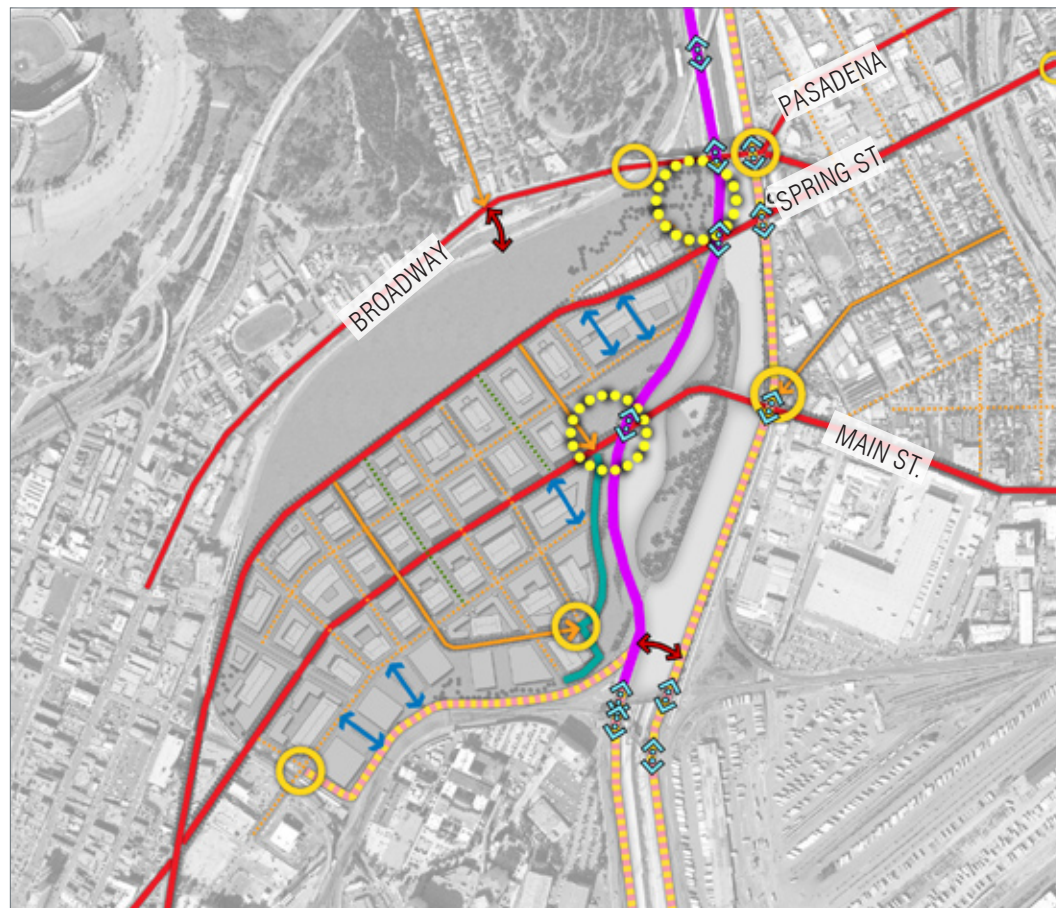
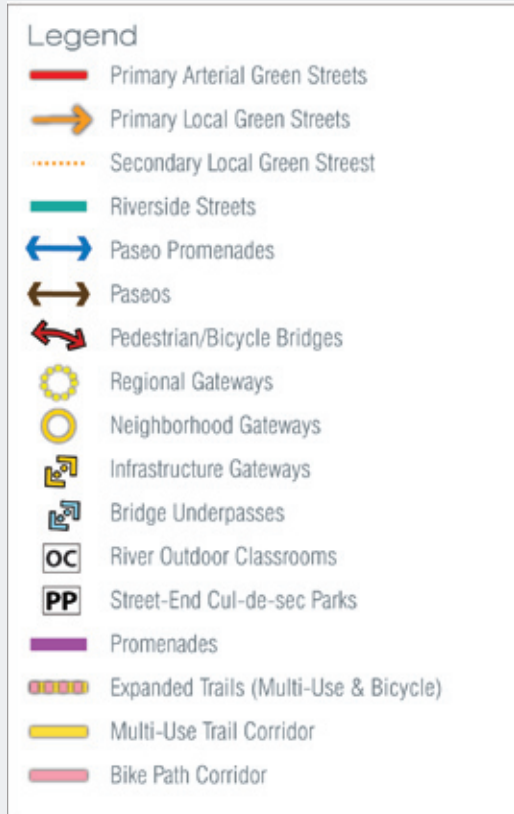
This recommended alternative for Chinatown-Cornfields has been developed to respond to a number of area-specific considerations:

- An opportunity to provide recreation and boatable access to the River in an area where existing channel morphology or structure is most conducive to these uses;
- An opportunity to create a significant new park in an evolving and emerging community close to the heart of the City; and
- An opportunity to create a significant wildlife habitat area and preserve that eventually will be linked to upstream habitat at the River's confluence with the Arroyo Seco, then upstream further to Taylor Yard, and eventually upstream further to Verdugo Wash ultimately forming a connected "green ribbon" for birds and mammals.

## OPEN SPACE AND CONNECTIVITY

On the west side, the developed edge is reconfigured to maximize connections and engagement with this new large River Park. Access to the River is improved for park-poor communities on the east side, and the new Los Angeles State Historical Park is connected with the River.

A River Promenade links the Los Angeles State Historical Park and the new River Park, traveling under historic bridges and enjoying dramatic views of Downtown Los Angeles. The promenade winds through wetlands, open space, and civic areas with outdoor cafes and restaurants. Here, Riverside Streets encourage commercial and residential buildings to face the River. The River Promenade also links with Recreational Loops, including a Los Angeles Historic Loop that runs through Historic Downtown, and another that tours Elysian Park.



Open-Space Typology Map - A system of green connections provides safe ways to get from home to the revitalized River.



Existing - Broadway Bridge, taken from Downey Recreation Center on the east bank of the River (2006)



Future - Through terracing, planting and locating the existing rail on trestles, the Los Angeles State Historic Park and the River Greenway act as a unified system.



Existing - The Department of Water and Power Facility near the intersection of Leroy Street and Bolero Lane (2006)

Green River Arterials with improved pedestrian and bicycle amenities serve as the primary connectors for surrounding communities. Shade trees, street furniture, and wider sidewalks improve the pedestrian and cycling experience. Running along the new State Historic Park, Spring Street is reconfigured to become a Green Boulevard. Wide planted medians, bicycle lanes, and generous sidewalks celebrate the street's passage to the River. Crossings such as freeway underpasses become opportunities to celebrate the presence of the River and invite users down to the River Park. Convenient connections to public transportation, including the adjacent Gold Line, connect a wide range of users to this area. Improved local connections include access from Solano Canyon and Lincoln Heights.

The new development is configured to maximize connectivity with the new River Park. Green River Streets and intimate Paseos ensure multiple connections to the River's edge. A trail adjacent to the Union Station tracks creates an alternative route to and from Downtown.

A new crossing near the Mission Road Rail Yards completes the area's River Fitness Loop. Bridges should safely accommodate a variety of users, including pedestrians and bicyclists.



Future - With a retail edge, the proposed Riverfront Drive creates a dynamic relationship between the River and the community.



Existing - Looking north on Baker Street with the Los Angeles State Historic Park site on the left. (2006)



Future - An improved Baker Street connects into the River Greenway, and can become an important link between Chinatown and the River.

# CHINATOWN-CORNFIELDS AREA: SECONDARY ALTERNATIVE (ALT. A)



## RIVER-EDGE IMPROVEMENTS

The secondary alternative developed for this Opportunity Area has a much more urban character. Four street-end parks of varying sizes are created along the west side of the River, terminating at the major street connections within the Opportunity Area. These parks are cantilevered over the River using a system of suspended piers and they offer both green “breathing space” for passive recreation, as well as more urban, plaza spaces. The parks are linked laterally along the River by a broad, urban promenade that offers opportunities for strolling, or simply sitting and watching passers-by.

As with the previous alternative, a rubber dam is employed to create a ponded area of open water.

A system of water quality terraces is also provided on the west side of the River, treating storm runoff from adjacent streets and developed areas.



Before - Main Street with Downtown in the background. (2006)

## OPEN SPACE AND CONNECTIVITY

In this alternative, a new linear park is created connecting the Los Angeles State Historic Park directly to the River along the Sotello/Leroy Street corridor. Immediately adjacent to the retained William Mead housing development, this linear park provides much-needed passive recreation space for residents.

A new linear River Park runs parallel to the existing River right-of-way. With access provided by placing the existing rail lines on trestles near the State Historic Park, and at the connection point with the linear park, this open space system creates a Recreation Loop within the riverfront neighborhood.



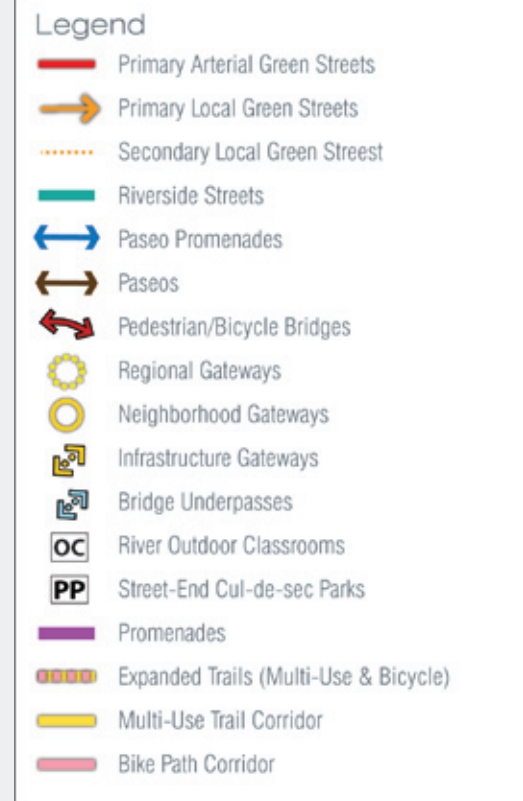
Looking north from the Mission Road Rail Yards, a new urban park edge is created that provides riverfront access.

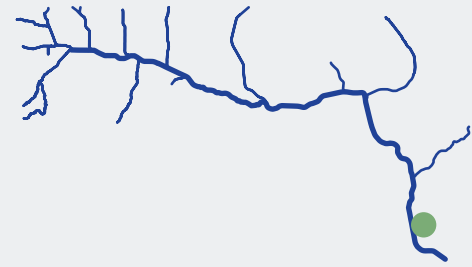


In both alternatives, a revitalized Main Street becomes the heart of the new riverfront community with retail stores, restaurants, and cafes.



Open-Space Typology Map





## DOWNTOWN INDUSTRIAL AREA OPPORTUNITY AREA

### EXISTING CONDITION

*The Downtown Industrial Area demonstrates options for revitalization in an area where access to the River is severely constrained by rail lines, and where surrounding neighborhoods are seeking to reconnect to the River and to each other.*

Because of the River, rail, and freeways, the Downtown Industrial Area is disconnected from adjoining areas. Bounded by the Santa Ana and Santa Monica Freeways and the Los Angeles River, the Opportunity Area is dominated by light-industrial and manufacturing land uses, with the Pico Aliso residential development pressed up against the Santa Ana Freeway. As one of the few remaining large land areas zoned for industrial use, this area is under increasing pressure to retain existing land uses. However hand, the park-deficient Boyle Heights community to the east, the emerging residential community of the Arts District to the west, and the growing populations of Downtown and Little Tokyo are calling for additional park and riverfront open space as part of a larger interconnected pedestrian system.

In its current state, the Area's roadway and infrastructure network fails to address any potential pedestrian users, while struggling to accommodate the existing heavy traffic needs associated with the industrial uses. On a regional level, potential connections exist between the emerging residential users on the west bank, the residents of Boyle Heights on the east, and the River. However, the current roadway configurations favor vehicle traffic, with very little consideration given to pedestrian users. In particular, the existing freeway underpasses along First, Fourth, Sixth, and Seventh Streets lack any pedestrian orientation and result in physical disconnections between the River and the Boyle Heights community.

Regional heavy rail lines, rail storage, and the Metro maintenance facility now separate the River from the adjoining neighborhoods. On the east side of the River,



top - Industrial uses line the River to the east, while industrial to residential conversions occupy the land to the west of the River. (2006)

middle - Active rail and rail-storage facilities cut-off the River from adjoining development. (2006)

bottom - Existing residential properties border the industrial area to the east of the River. (2006)

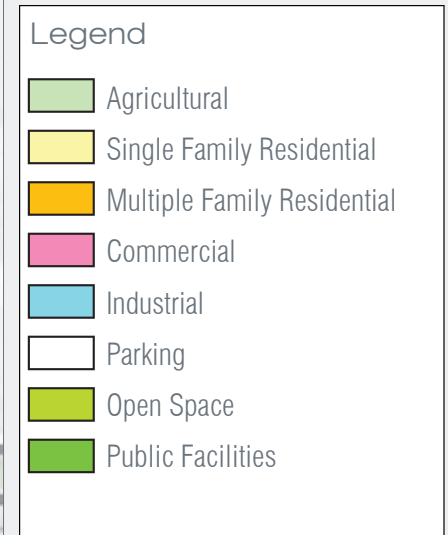


Existing - Metro maintenance facility, active rail and rail-storage tracks separate the west side of the River from the emerging Arts District community. (2006)

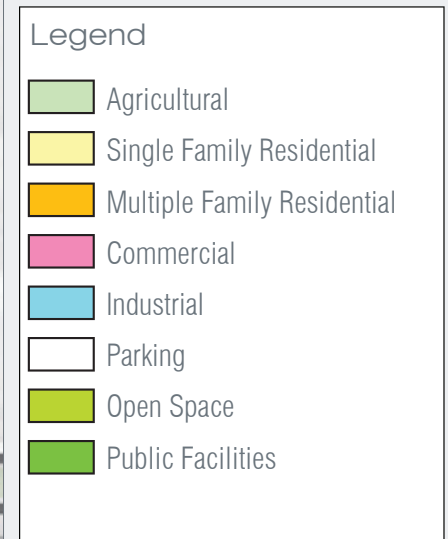
two functioning through-tracks and six additional storage tracks, formerly used to maneuver trains onto now-defunct rail spurs, restrict access to the River. The western edge of the River is separated from the emerging residential community by a total of 27 tracks composed of freight rail, Metro maintenance and rail-car storage lines. As the Community Plans for this area are reexamined and substantially rewritten, continued discussions with rail companies and Metro will be necessary to determine how storage facilities might be moved out of this area and existing tracks may be consolidated or shifted to provide open space and access along the revitalized River's edge



Existing Zoning



Community Plan - Land Use



## DOWNTOWN INDUSTRIAL AREA: PREFERRED ALTERNATIVE (ALT. A)



### IMAGINE A REVITALIZED RIVER!

*People crossing the 6th Street Bridge used to notice a vast concrete channel, with multiple rail lines on either side. They now notice water in the channel most times, created by the installation of a rubber dam downstream. On the east side of the River, new parks connect Boyle Heights to the River and provide access to the water's edge.*

### RIVER-EDGE IMPROVEMENTS

The vision for the Downtown Industrial Area presents the following scenario: Rail lines on the east bank of the River have been consolidated onto two tracks and moved farther inland from the bank, providing space for a green corridor. North of East 4th Street, north of East 6th Street, and south of 7th Street, this green corridor slopes down below the existing rail line, providing opportunities for neighborhood-scale parks and associated Green Street connections into the Boyle Heights community.

These parks provide a connection to the River for a neighborhood that has long seen rail-lines, the River, and the freeway as a barrier. In the areas where the three parks have been created, the concrete channel walls have been “peeled back” to form a wedge and to provide a green connection extending to the water’s edge. At the top of the bank, parks are connected via the continuous multi-use River Greenway.

In other areas along the eastern edge where storm drains now daylight into the River, a series of water quality treatment terraces have been constructed to provide in-channel water quality treatment.

Installation of a rubber dam downstream allows the experience of water in the channel bottom during many occasions. Where once visitors would see a vast expanse of concrete, now those crossing at one of the bridges will experience a water-lined channel.

To strengthen the relationship between the River and Boyle Heights neighborhood on the eastern side and the Arts District neighborhood on the western side, a system of Green Street connections with shady tree-lined sidewalks has been established at approximately one half-mile intervals. To enhance connectivity between the west and east sides of the River, improved pedestrian environments are proposed to coincide with City bridge improvements and reconstruction projects for the existing bridges along First, Fourth, Sixth, and Seventh streets. The First Street improvement should coincide with the Gold Line extension and station development.



This recommended alternative for the Downtown Industrial Area has been developed to respond to area-specific considerations including:

- An expressed desire to provide more parkland in an area that is currently park-deficient;
- An opportunity to provide signature terraced green access to the water's edge;
- An opportunity to connect Downtown to the River Greenway;
- An expressed desire to reconnect neighborhoods on the east and west sides of the River, eliminating a long-perceived barrier; and
- An opportunity to demonstrate district-level water quality treatment for major storm drains that discharge on the eastern edge of the channel.

## OPEN SPACE AND CONNECTIVITY

A major new Promenade winds through the Riverfront Park, stretching for more than a mile. The Promenade travels underneath multiple historic bridges and links with multiple rail undercrossings, each joined with a larger park and Gateway outside the railway line. The Gateways themselves are prominent and can be seen from surrounding freeways. An outdoor classroom encourages children to learn about the history and ecology of the River.

River Green Arterials serve as primary links to surrounding communities. On the east side, where topography and freeways constrain access, infrastructure Gateways on the arterials celebrate the River. The south end of Hollenbeck Park is linked to the River by an infrastructure Gateway that connects through two freeways. Within the Pico Aliso community, local Green Streets improve connections to the River.

**Legend**

- Primary Arterial Green Streets
- Primary Local Green Streets
- ⋯ Secondary Local Green Street
- Riverside Streets
- ↔ Paseo Promenades
- ↕ Paseos
- ↔ Pedestrian/Bicycle Bridges
- ⊙ Regional Gateways
- Neighborhood Gateways
- ⌂ Infrastructure Gateways
- ⌂ Bridge Underpasses
- OC River Outdoor Classrooms
- PP Street-End Cul-de-sac Parks
- Promenades
- ▬ Expanded Trails (Multi-Use & Bicycle)
- ▬ Multi-Use Trail Corridor
- ▬ Bike Path Corridor



Open-Space Typology Map - A system of green connections provides safe ways to get from home to the revitalized River.



Existing - Looking west along First Street from the intersection of First and Vignes, with Downtown in the distance and construction of the Gold Line East Side Extension on the right. (2006)



Future - Street trees, a dedicated bike lane and vegetated bioswales create an improved First Street, that connects Downtown with the River.



Existing - Looking west along Fourth Street at the Interstate 101 underpass towards Boyle Heights (2006)

On the west side of the River, additional connections are made on local streets, such as Commercial Street, where a lush parkway leads Downtown residents directly to River trails. Where arterial rights-of-way are too constrained to accommodate bicycle lanes, an alternative network of smaller streets carries bicyclists east to Santa Fe Avenue. Santa Fe Avenue acts as a bicycle and pedestrian collector street, safely directing non-vehicular traffic to the closest access point to the River. Access to the River on this side consists of railway underpasses, fly-overs, or ramps from existing bridges. Bridges should safely accommodate a variety of users, including pedestrians and bicyclists.



Future - Gateways celebrate the existence of the River and signify entry into the River Corridor from Boyle Heights.



Existing - The industrial character of Third Street just east of Mission Road and the Los Angeles River (2006)



Future: Improved industrial streets provide much-needed pedestrian connections between the Pico Aliso housing development and the River Greenway.

# DOWNTOWN INDUSTRIAL AREA: SECONDARY ALTERNATIVE (ALT. B)



## RIVER-EDGE IMPROVEMENTS

The secondary alternative buries the rail lines on the east side, creating an opportunity for more urban spaces along the River Greenway. A system of hard surface terraces provides access to the water's edge, where festivals and gatherings are staged, similar to precedents from European cities. Broad 30-foot-wide promenades provide space for kiosks, food courts and pavilions, and allow for strolling and people-watching. A system of belvederes, plazas, and overlooks provides additional opportunities for public gatherings.

Water quality treatment terraces are installed within the channel to treat stormwater runoff from adjacent developed areas. Shade trees are installed at the top of the bank, and, where feasible, native plantings and gardens are created.



Existing - Looking east on Commercial Street, near the intersection of Commercial and Vignes toward the River (2006)

## OPEN SPACE AND CONNECTIVITY

By placing the rail lines underground, room is made for a larger, more extensive River Park. In this scenario, access to the River's edge is no longer limited to a few under-crossings; instead, a more vibrant edge faces new and existing development.



After - In both alternatives, an improved Commercial Street with porous-paving parking areas, infiltration bioswales and a bike path connect City Hall in Downtown to the River's edge.



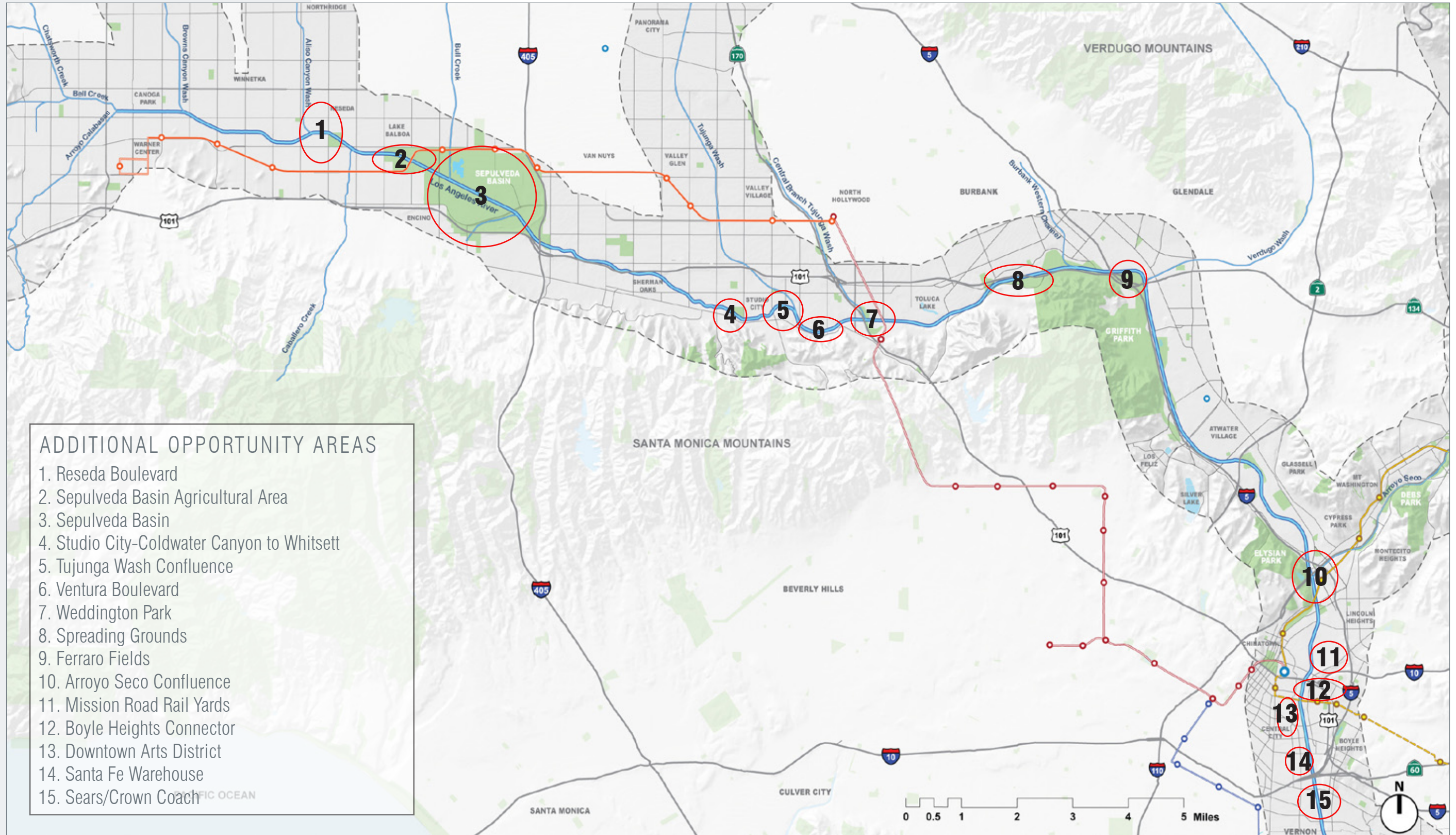
Open-Space Typology Map - A system of green connections provides safe ways to get from home to the revitalized River.



Looking northeast from the Fourth Street Bridge, more urban River edges are created along the existing industrial buildings.

**Legend**

- Primary Arterial Green Streets
- Primary Local Green Streets
- Secondary Local Green Street
- Riverside Streets
- Paseo Promenades
- Paseos
- Pedestrian/Bicycle Bridges
- Regional Gateways
- Neighborhood Gateways
- Infrastructure Gateways
- Bridge Underpasses
- River Outdoor Classrooms
- Street-End Cul-de-sac Parks
- Promenades
- Expanded Trails (Multi-Use & Bicycle)
- Multi-Use Trail Corridor
- Bike Path Corridor



# ADDITIONAL OPPORTUNITY AREAS

## OPPORTUNITY AREA #1 - RESEDA BOULEVARD



Through the reconfiguration of Reseda High School and Reseda Park, the Reseda Boulevard Opportunity Area offers an opportunity to expand the channel width, restore functional riparian habitat, improve water quality treatment, increase in-channel planting, and create a neighborhood open space. When combined with the potential neighborhood and regional green-street connections, the improved Reseda Park open space can provide a recreation and open space destination that embraces the Los Angeles River.



Reseda High School (2006)



Reseda Park (2006)

### OPPORTUNITIES

- Synergy with Reseda High School and Reseda Park
- Public ownership on both sides of the River
- Active mixed-use street
- Confluence of Aliso Canyon Wash

### CHALLENGES

- Major reconfiguration of Reseda High School would be required to accommodate channel modifications.

## OPPORTUNITY AREA #2 - SEPULVEDA BASIN AGRICULTURAL AREA AND #3 - SEPULVEDA BASIN



The Sepulveda Basin Opportunity Area is a rare and regionally-significant resource, and supports a diversity of uses within the Basin. The Sepulveda Basin Opportunity Area provides a major opportunity for restoration of riparian habitat and a functional ecosystem within the Sepulveda Basin that could allow for removal of the concrete-lined channel walls. Bioengineering both banks of the River throughout the basin and creating specific access points within the park would improve habitat as well as provide the public with an opportunity to experience a healthy River ecosystem.



Soft-bottomed portion of the River through the Basin (2006)



The Sepulveda Dam Recreation Area (2006)

### OPPORTUNITIES

- The land is federally owned and would not need to be acquired.
- Proactive and engaged constituent groups.
- Restoration efforts are already in place, led by the Corps of Engineers.

### CHALLENGES

- Current recreational user groups are sensitive to changes that impact their facilities.

**OPPORTUNITIES**

- Active commercial properties next to the River's edge
- Allows integration of water quality with golf course
- Active community interest in open space

**CHALLENGES**

- Constrained River edge
- Development pressures for the tennis and golf course area

**OPPORTUNITY AREA #4 - STUDIO CITY - COLDWATER CANYON TO WHITSETT BOULEVARD**

The Studio City Opportunity Area can provide a portion of the continuous River Greenway through one of the most built-out and constrained sections of the Los Angeles River. For the commercial properties along the River, the potential exists to reorient buildings to face the improved River Greenway and to encourage uses such as cafes and restaurants, creating a vibrant and active riverfront environment. On the Studio City Golf Course and Tennis Facility side of the River, additional water quality treatments, such as bioinfiltration swales and detention basins, could be integrated into these current uses, providing additional environmental benefits for the River.



Ventura Boulevard at Whitsett (2006)



Ventura Boulevard beyond the tennis courts (2006)



**OPPORTUNITIES**

- By partnering with CBS, this project can set a precedent within the City of Los Angeles for public-private River improvements.
- This area includes one of the River's major confluences, with the Tujunga Wash.

**CHALLENGES**

- Buildings have been constructed up to the edge of the right-of-way, providing very little space for channel modifications.
- Public uses along the River Greenway may create security and access concerns for the film studios.

**OPPORTUNITY AREA #5 - TUJUNGA WASH CONFLUENCE**

The Tujunga Wash Confluence Opportunity Area provides two unique possibilities not available elsewhere on the River: 1) The opportunity to partner with a major film studio to develop the River Greenway; and 2) The opportunity to use the confluence of two major River systems, the Los Angeles River and Tujunga Wash, as an area for regional water quality treatment provided through constructed wetlands.



New CBS development at the Tujunga Wash confluence (2006)



The Los Angeles River near the Tujunga Wash confluence (2006)



## OPPORTUNITY AREA #6 - VENTURA BOULEVARD



The Ventura Boulevard Opportunity Area can provide a portion of continuous River Greenway through a section of the Los Angeles River that is constrained by buildings that have been constructed against the River right-of-way. For the commercial properties along the River, the potential exists to reorient this development along the improved River Greenway by providing new cafes and restaurants within existing parking areas, to create a vibrant and active riverfront.



Looking south at Ventura Boulevard (2006)



Ventura Boulevard at Tujuanga Avenue (2006)

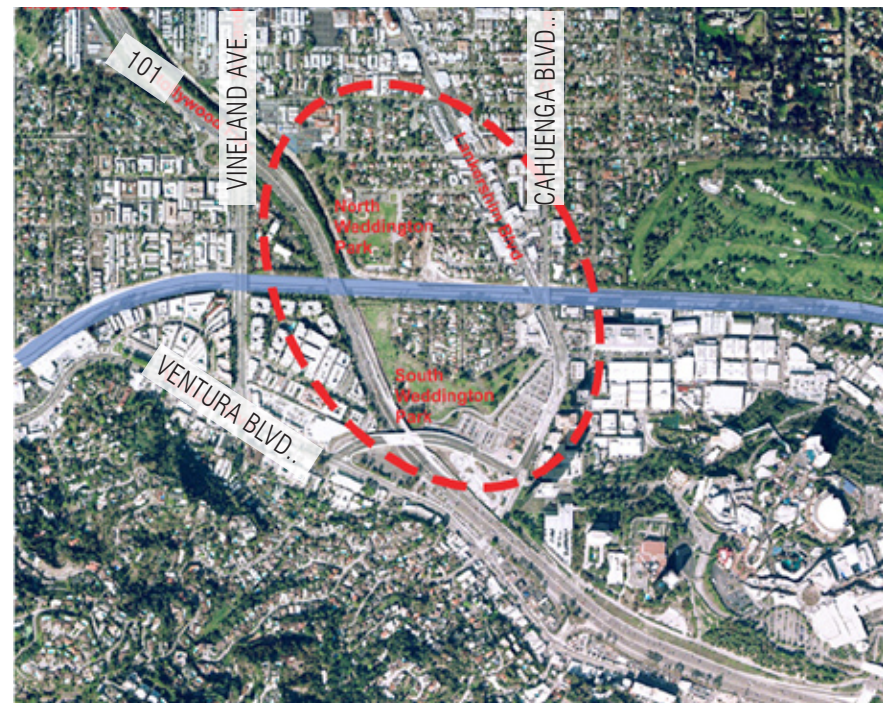
### OPPORTUNITIES

- Active commercial properties adjacent to the River's edge
- Adjacent to large residential neighborhoods
- New development likely to occur without dramatic River changes.

### CHALLENGES

- Buildings have been constructed up to the edge of the right-of-way, providing very little space for channel modifications.
- Connectivity improvements would not provide multiple benefits for the rest of the region.

## OPPORTUNITY AREA #7 - WEDDINGTON PARK



With the reconfiguration of the north and south portions of the park, the Weddington Park Opportunity Area could provide direct access to the improved River Greenway, and create water quality treatment areas. With the addition of landscaped terraces, a new pedestrian bridge across the River, and Green Street improvements, the Area could become a neighborhood recreation and environmental hub that becomes a resting point along the River Greenway.



The River divides Weddington Park into two parts. (2006)



South Weddington Park (2006)

### OPPORTUNITIES

- Connects both sides of the existing Weddington Park
- Opportunities for significant ecosystem restoration
- Adjacent to Universal City Metro stop
- Transit oriented development is likely to occur at the transit stop
- Naturalized River edge could be created next to adjacent, dense residential neighborhoods.

### CHALLENGES

- Beyond the park edges the River right-of-way is constrained by residential and commercial properties.
- The freeway limits potential River-edge expansion.

### OPPORTUNITIES

- Provides an opportunity to bring park users up to the River's edge.
- Currently under public ownership and would not require acquisition
- Enhances River experience within Griffith Park
- Compatible with the Griffith Park Master Plan
- Would extend open space development planned by the Los Angeles Department of Water and Power for the spreading ground area
- Opportunity for significant ecosystem restoration

### CHALLENGES

- Griffith Park already provides a significant large open space, so it could duplicate what is already available.

### OPPORTUNITIES

- Create a Riverfront Park
- Improved River Greenway
- Improved water quality
- River hydraulics make this a very good site for channel wall removal.
- Adjacent to Burbank's planned River project

### CHALLENGES

- Intermittent flooding of sports fields could be experienced if walls were removed.
- The park could use more - not less - space for recreation fields.

## OPPORTUNITY AREA #8 - SPREADING GROUNDS

Through an expansion of the channel's width, removal of its concrete walls, extensive ecosystem restoration, and the creation of a large water quality and habitat area, the Spreading Grounds Opportunity Area could provide a major environmental benefit for the region. Along the area's southern boundary, Forest Lawn Drive could become one of the great Riverside Drives, where users could stop and walk along the River's edge, enjoy its naturalized condition, and view the large assortment of riparian and riverine animals that could inhabit this area.



The Spreading Grounds from the east (2006)



The channel wall at the Spreading Grounds (2006)



## OPPORTUNITY AREA #9 - FERRARO FIELDS

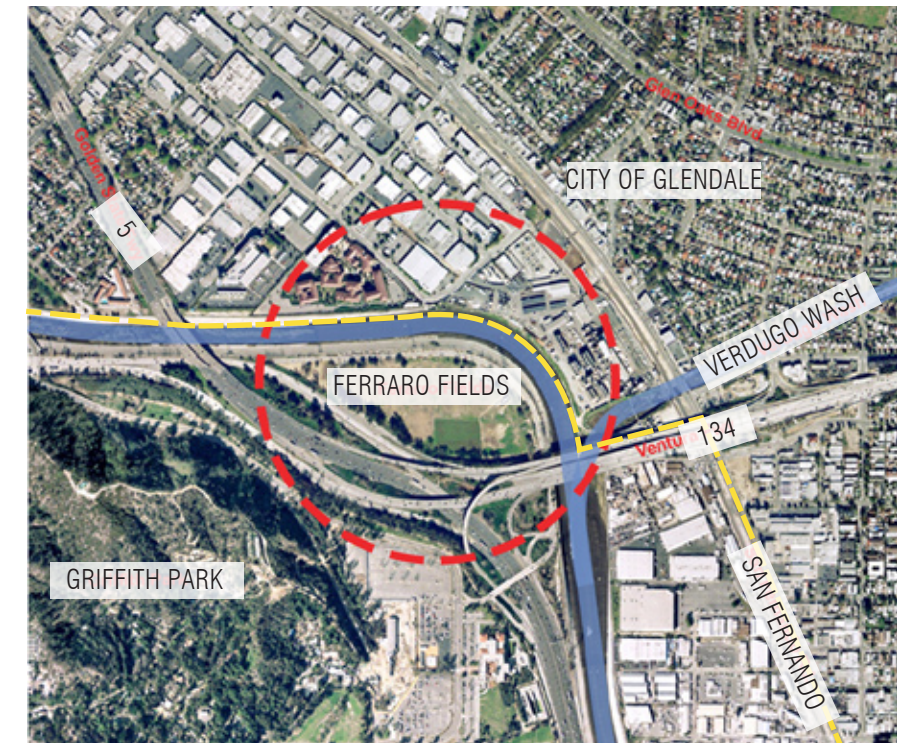
Because of the small levee wall and the North Zoo Drive ring road along the River's edge, users of Ferraro Fields have very little River experience. By relocating North Zoo Drive to run adjacent to the freeway interchanges, removing the levee wall and terracing and greening the channel wall, the users of Ferraro Fields could experience the revitalized River from a Riverfront Park. Ultimately, this new riverfront experience would have to be balanced against the intermittent flooding of Ferraro Fields, which would occur as a result of the levee being removed. By adding new riverfront elements to an existing significant green space, this project would be a grand sweeping example of revitalization-by-greening.



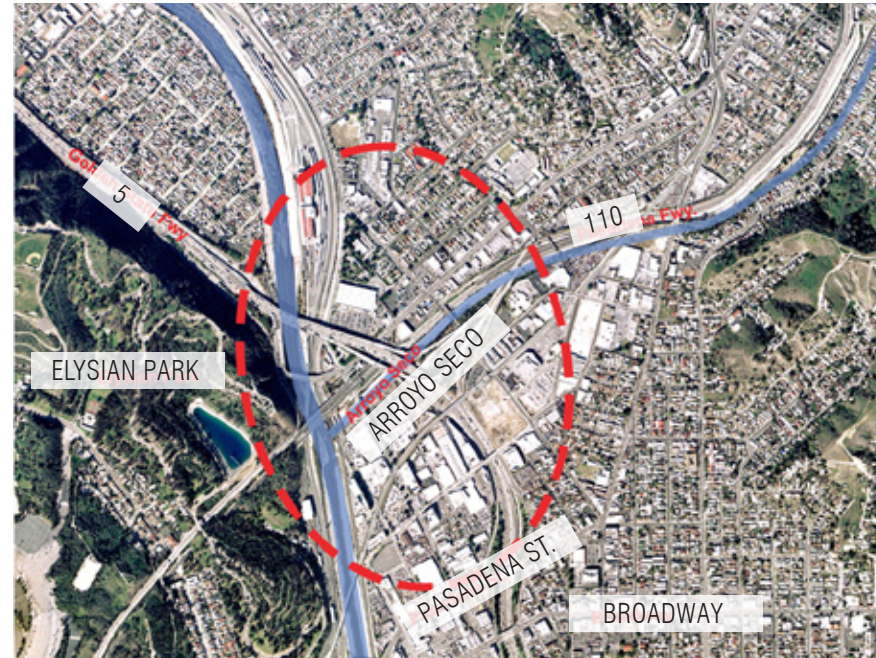
Looking east towards Ferraro Fields (2006)



Ferraro Fields from above the Ventura Freeway (2006)



## OPPORTUNITY AREA #10 - ARROYO SECO CONFLUENCE



The confluence of the Arroyo Seco and the Los Angeles River provides an opportunity to celebrate the natural intersection of two waterways of significant historical and cultural importance. The Arroyo Seco confluence offers an opportunity for meaningful habitat and stream restoration, for water quality treatment and flood management, and for strengthened ecological connections to the San Gabriel Mountains.

Together, the Arroyo Seco and the Los Angeles River connect the three largest parks in the City of Los Angeles—Griffith, Elysian, and Debs—all of which have significant natural habitat areas. North/east of the City boundary, the Arroyo Seco is lined with nearly continuous open space leading to the Angeles National Forest.



Arroyo Seco confluence from the Pasadena Freeway (2006)

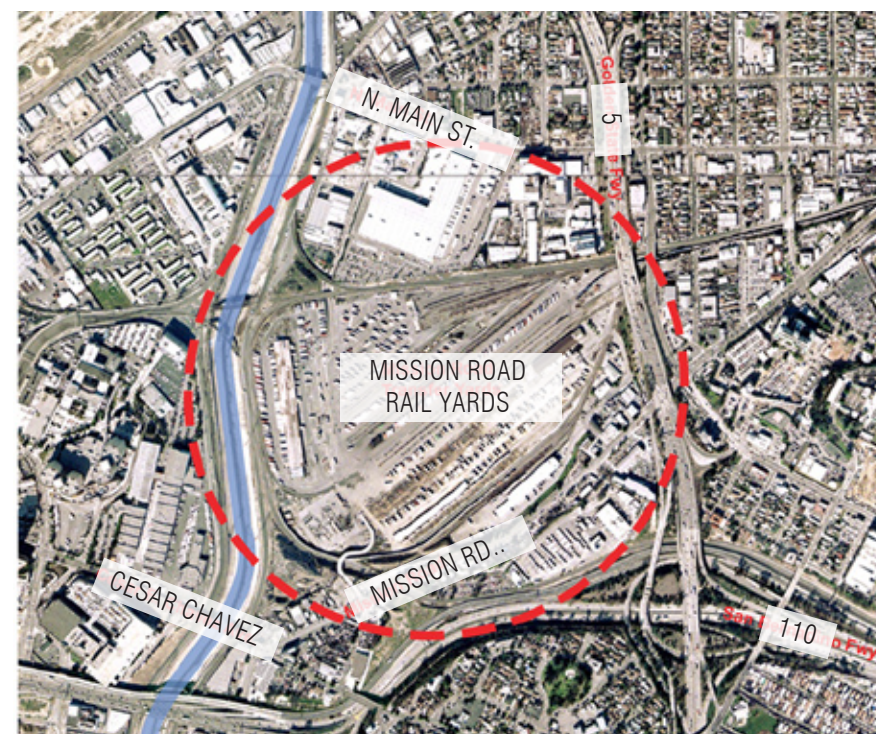
### OPPORTUNITIES

- Many publicly-owned facilities within the area
- Major confluence
- Strong civic and environmental organizational support
- Arroyo Seco restoration is currently being studied
- Confluence Park in design by the Mountains and Recreation Conservation Authority

### CHALLENGES

- Heavily constrained by freeway and other infrastructure
- Because of the area's physical constraints, improvements might have a major impact on the confluence directly

## OPPORTUNITY AREA #11 - MISSION ROAD RAIL YARDS



The Mission Road Rail Yards would require the relocation of some of the existing rail facilities, removing the concrete channel walls and lowering the land adjacent to the River, while building rail trestles to maintain the existing elevation of some of the rail through-tracks. Consolidation of the rail on the west side of the River provides the opportunity to create a large riverfront open space with water quality treatment areas. Purchasing this large land area from the rail company would create the potential to develop a new mixed-use development with new open space, resulting in a vibrant riverfront community.



Adjacent industrial uses to the north of the Rail Yards (2006)



Existing rail between the River and the Rail Yards (2006)

### OPPORTUNITIES

- Dramatic water quality and open space opportunity
- Large area of land that is owned by a single entity
- Large site would accommodate mixed-use development.
- Major opportunity for habitat restoration and River-edge naturalization

### CHALLENGES

- Dependent on rail companies' willingness to relocate this facility
- Two heavy rail lines will remain even if the facility is relocated.
- Pollution and environmental contamination concerns for the site because of the associated rail uses

**OPPORTUNITIES**

- Creates beneficial connection between the River and Boyle Heights
- Builds on existing housing project developed by the Community Redevelopment Agency
- Near the new Boyle Heights Gold Line extension stop

**CHALLENGES**

- Offers very little opportunity for River channel modifications or development changes
- Can be accomplished by applying the open space typologies

**OPPORTUNITY AREA #12 - BOYLE HEIGHTS CONNECTOR**

By taking advantage of existing freeway right-of-ways, the Boyle Heights Connector Opportunity Area can establish an open space connection that would link the residents of Boyle Heights with the Los Angeles River. Overall, this Opportunity Area is focused on establishing connections with the River, which would result in few channel modifications or development changes.



San Bernadino Freeway east of the River (2006)



Community Redevelopment Agency housing project (2006)



**OPPORTUNITIES**

- Emerging residential population with limited access to existing open space
- Could act as the link between Downtown and the River
- Allows residents to enjoy improved access to the River

**CHALLENGES**

- Western edge of the River is inaccessible due to location of the Metro Maintenance Yards.
- Safety and security concerns
- Relies on rail to move storage lines

**OPPORTUNITY AREA #13 - DOWNTOWN ARTS DISTRICT**

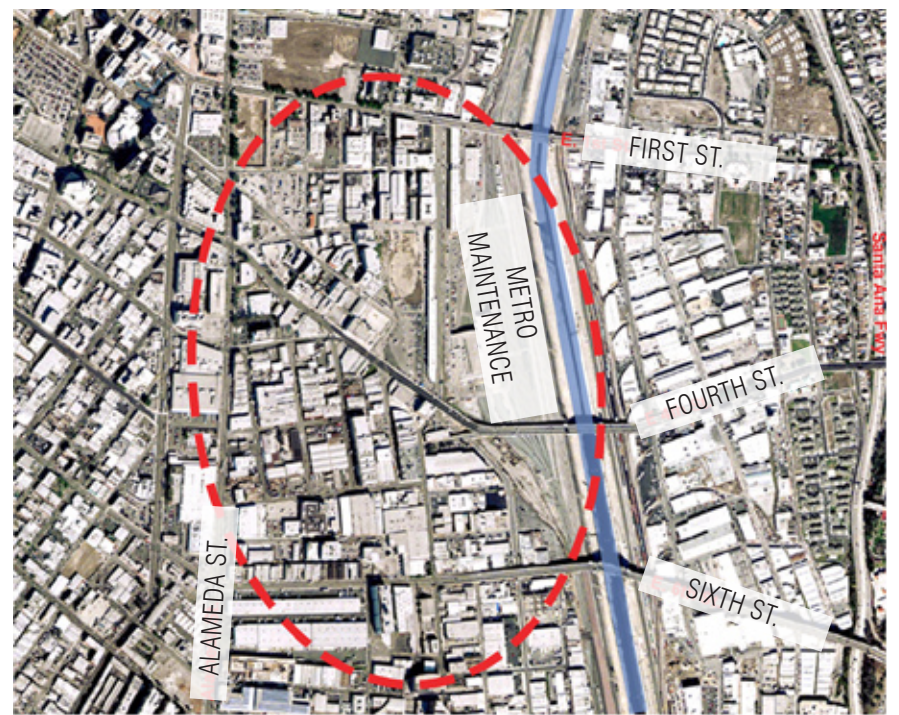
The Downtown Arts District is an emerging residential, mixed-use neighborhood that, when coupled with Downtown to the west and Little Tokyo to the north, provides a large population base of potential River visitors. By reconfiguring the active rail and storage tracks and taking advantage of the future redesign of the 6th Street Bridge to provide access to the River's edge, expanding the River Greenway would be possible along the western edge of the River.



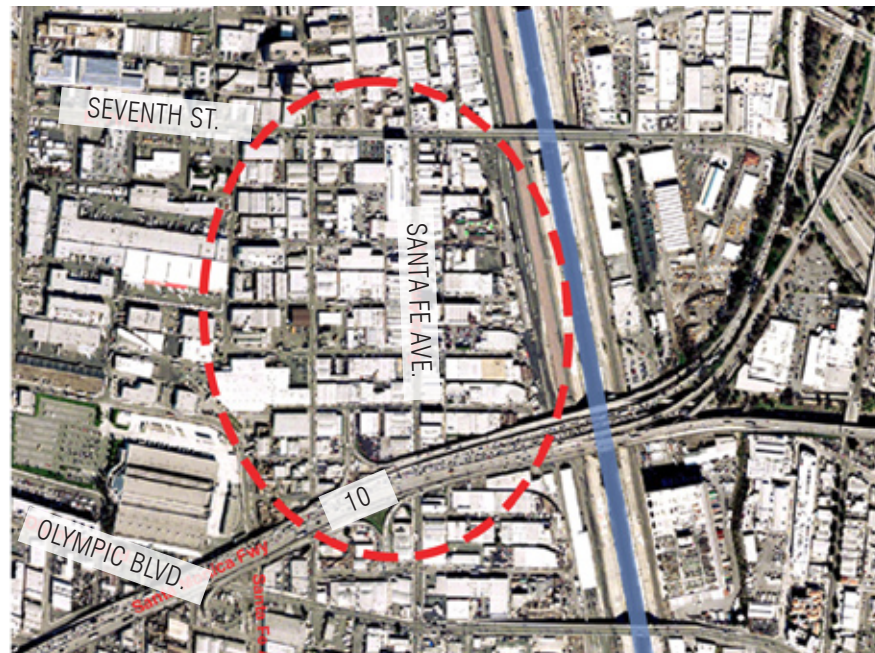
Existing industrial/residential buildings in the area (2006)



Metropolitan Transit Authority maintenance facility north of Fourth Street (2006)



## OPPORTUNITY AREA #14 - SANTA FE WAREHOUSE



The Santa Fe Warehouse area contains an assortment of historic warehouse structures, some of which, because of their architectural and aesthetic features, have recently been converted to residential uses, or are expected to be considered for such uses in the future. The future land use of this area is under review as part of the City's industrial land use policy update. While a determination has not yet been made on whether additional properties should be converted to residential uses, should this take place, a growing population base would require additional open space and recreational opportunities. Should the area be retained for industrial uses, appropriate street treatments would need to be considered that both meet the industrial needs and provide River access, as discussed in other industrial Opportunity Areas.



Existing industrial buildings within the area (2006)



Freight rail and storage tracks next to the River's edge (2006)

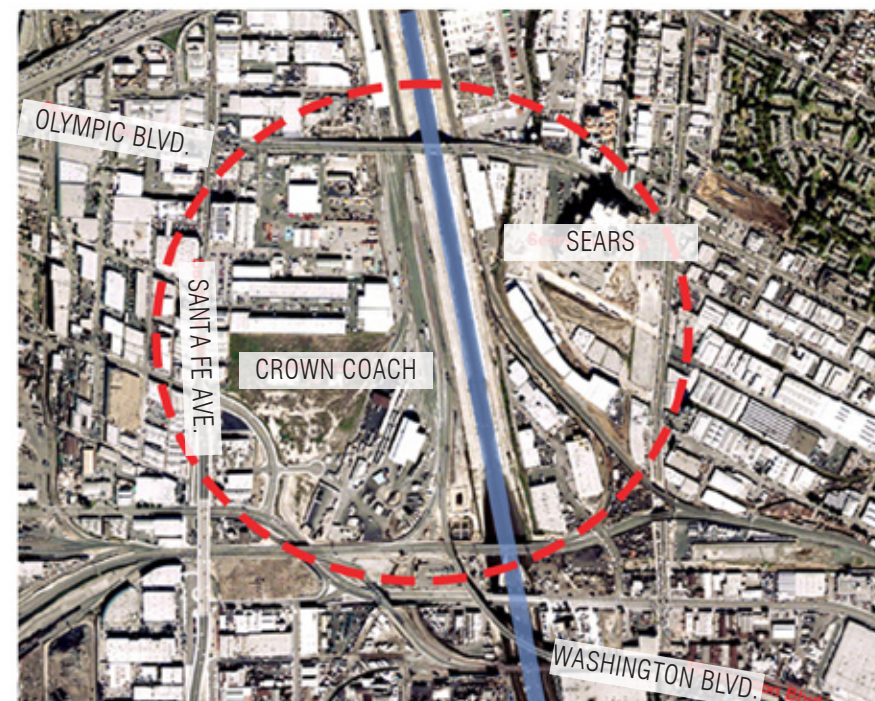
### OPPORTUNITIES

- Opportunity to address open space needs of a growing residential population

### CHALLENGES

- Constrained by freight rail lines and storage tracks, similar to other Downtown areas

## OPPORTUNITY AREA #15 - SEARS/CROWN COACH



The Sears/Crown Coach Opportunity Area brings together the historically-significant Sears Building, and a brownfield site that once housed a rail roundhouse. Unlike most of the other Opportunity Areas along the River, if current rail movement can be accommodated, it provides the opportunity to dramatically impact the River's edge on both sides. By unifying both sides of the River and providing improved pedestrian connections to the River Greenway, this area can be a Gateway celebrating one's entry into or exit from the City of Los Angeles.



Rail lines flank both sides of the River through the area (2006)



Sears Warehouse and associated parking lots (2006)

### OPPORTUNITIES

- Opportunity Area spans the River on both sides
- Point of entry into the City of Los Angeles from the City of Vernon to the south

### CHALLENGES

- Environmental and pollution concerns
- Rail constrains the River's edge



# CREATE VALUE 7

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



Looking south from the confluence of the Verdugo Wash, the Los Angeles River borders Griffith Park to the west and the River Glen Opportunity Area to the east. Downtown Los Angeles is visible in the distance (2006)



## CREATE VALUE

The greening of the River will provide a multitude of benefits to communities. Some of these benefits will be financial—to both private property owners and the community as a whole. They should be carefully evaluated, planned, and organized to maximize and fairly distribute the gains.

River improvements have the potential to influence how property owners, businesses, and residents think about their communities, their neighborhoods, and their properties. Making the River green and accessible will turn a potentially dangerous eyesore (and an undervalued asset) into a valuable amenity. Initial improvements to the River channel and surrounding land will begin to unify amenities and districts within communities. Where today some land uses, streets, and neighborhood characteristics may appear to be permanent, in the future property owners will see opportunities to take advantage of River improvements to enhance their holdings, their quality of life, and the property values of surrounding land.

At the same time River improvements raise the specter of potentially negative community impacts, such as gentrification, increased traffic, displacement of renters and homeowners, lack of affordable housing, and the loss of existing jobs, particularly industrial jobs. Economic development initiatives must be carefully balanced to consider a full range of community concerns.

The quality and care of private properties near the River today is sometimes inferior compared to properties that are only a few blocks away. In other cases, wonderful stable residential neighborhoods and industrial districts have evolved along the River and have survived and been somewhat protected from change due to their location as enclaves sheltered by the River. With River improvements will come pressures causing all neighborhoods along the River to begin to change.

It is essential that the community planning process be used, and that existing community plans be updated so that communities themselves can decide how to take advantage of River improvements, capturing desired benefits and protecting existing uses and properties where appropriate. Notions of stability and change are the beginning points of these discussions. Communities should ask themselves: What are the most positive and negative aspects of our area? Would our community be better if certain areas remained stable? And if others were to change? And, if so, which areas should be changed? What kind of changes are desired?

Community discussions and the community planning process should form the structure for implementing land use policies that will result in economic development. With the diversity of communities along the River, one can expect that a diversity of opportunities for—and constraints to—economic development will emerge. The River Management chapter 9 of this Plan suggests establishment of new entities to assist communities in taking advantage of River improvements, whether they are intended for economic stability or economic change.

Updating community plans and forming new management entities are very important steps for encouraging and accomplishing beneficial economic development along the River. Following these steps, the community will clarify intentions and guidelines, and define issues and opportunities. If Los Angeles responds to River improvements as other communities have, then residents, property owners, businesses, and institutions are likely to change their thinking about their properties and their business locations, and about how they fit into the community as a whole. Other cities have experienced three fundamental economic responses to River improvements. Each of these responses will likely play a role in the impact of this Plan on Los Angeles, and on the achievement of benefits, both economic and non-economic. These will be discussed next.

### CREATING VALUE: THE BENEFITS OF REVITALIZATION

This chapter considers the economic benefits that might result from a revitalized River.

Making the River green and accessible is expected to transform an undervalued asset into an amenity. Other cities have experienced three fundamental economic responses to River improvements:

- Direct public and private economic reinvestment: as a consequence of River revitalization, new housing units, including affordable housing, and jobs associated with new businesses, have been created.
- “Grass-roots” private investments: as a consequence of River revitalization, individual property owners have invested in their homes and businesses.
- General value increases: as a consequence of River revitalization, property values have increased in general.

This chapter builds on the River revitalization scenarios set forth in the previous chapter. The potential economic benefits of preferred and secondary alternatives are considered, in terms of jobs, housing, tax revenues and other similar indicators.

#### First, direct public and private economic investment:

Other cities have experienced substantial economic development benefits from both the public and private sectors as a result of River improvement. For example, several hundred million dollars of new development have occurred along the South Platte River in Denver following River improvements, park and open space investments, public community planning for economic development, and private-sector planning and development. Thousands of new units of housing, including affordable housing, have been created. Hundreds, if not thousands, of jobs are being created by new locally-owned businesses along the River. The changing perception of the River Corridor as a place of value, recreation and community has also stimulated a much wider shift in investment, and living and business patterns in several nearby neighborhoods (Denver Infill Scoreboard, 2004). This phenomenon is shared by almost every city with river or waterfront revitalization initiatives.

#### Second, “grass-roots” private investments:

Many residential neighborhoods near the River are in weak condition today. Many reasons may exist for these weaknesses, but the influence of the blight on the existing River conditions clearly contributes to a lack of private care and a lack of investment in private property. River improvements in other cities have changed people’s attitudes about their neighborhoods and, hence, their care of and investment in their properties. Families who have new children may choose to add on to their homes instead of move. Families who rent may decide to buy. Apartment owners may see opportunities to upgrade properties, and businesses may invest and upgrade as well. While these are important benefits, there are also important concerns that must be noted. Community plan updates and work on new management entities should take into account that private investment, especially private investment without good planning, can have a negative impact on jobs, renters, and property owners who experience economic pressure as a result of rising values and costs in an improving area.

#### Third, general value increases:

Los Angeles neighborhoods have been under inflationary pressure in recent years because of real-estate speculation and development. Many properties have changed hands simply because the increase in value of residential property has outpaced the growth of all other real estate values. This pressure has led to gentrification and the displacement of working-class residents and businesses. While the Plan itself cannot solve these issues, it is important to note that consideration of environmental justice, in particular, is essential to any discussion of economic development.

The Capturing Community Opportunities Chapter 6 describes a range of ideas, including plans suggesting potential redevelopment, as to how communities might plan to change and capture the multiple benefits of Los Angeles River improvement. These concepts form the basis for the detailed economic development analyses, and estimates of potential economic development in terms of jobs, housing, tax revenues and other specific measures that might result from River improvements. Select projections are provided at the end of this chapter.

Enhancing the River will be expensive. Many sources of funds will be needed, priorities will need to be established, projects must be phased, and alternative benefits must be weighed. Capturing these benefits is an important part of River improvement. If the community is going to invest in the River, then the community should expect a return on that investment, including private sector benefits and economic development of all three types described above.

## ECONOMIC DEVELOPMENT OPPORTUNITIES AND CONSEQUENCES

### Economic development: A multi-dimensional challenge

Progress by one measure, for example new jobs or housing, may result in adverse consequences by other economic and social measures. Therefore, the public policy goals of economic development in this Plan must be balanced with each other and considered in light of their side effects, both economic and non-economic.

There is little question that physical improvements to the Los Angeles River will induce private investment in new development on surrounding land. There is no question that this development will result in both construction period and permanent job creation, as well as new tax revenues payable to public agencies. These are generally considered to be positive economic effects. At the same time, however, this investment may have collateral or potential side effects which should be carefully evaluated and anticipated as part of the public approval process for this Plan. The Plan is intended to encourage revitalization's positive effects to benefit local communities and for detrimental side effects to be minimized. Specific areas of concern include:

#### *Loss of industrial land*

The loss of industrial land in the City continues to be a major concern to the business community and a variety of City agencies. The Mayor has asked the Department of City Planning and the Community Redevelopment Agency to review the City's land use policy for industrial land, and provide recommendations. Because a substantial portion of the City's industrial land lies along the River, possible changes in land use along the banks of the River should be evaluated and selected in the context of the City's broader industrial land policy debate. The City may elect to consider targeted incentives, such as density bonuses, expedited approvals or relocation requirements and benefits to support an appropriate balance between industrial, retail, residential, and mixed-use developments.

#### *Lack of affordable housing*

Riverfront communities provide a certain amount of affordable housing today. These communities face upward occupancy cost pressures if higher or new land uses are proposed along the River. The City's response to affordable housing issues in the River Corridor could include a range of measures for encouraging affordable housing; such measures include municipal housing bonds, density bonuses, inclusionary zoning, and other regulatory mechanisms. The overall issue of housing affordability and this tool box of possible responses should be carefully addressed by public policy makers as part of the future River planning process.

#### *Gentrification*

Gentrification is potentially the most serious political issue associated with riverfront development. Its effects, both positive and negative, should be anticipated and mitigated consistent with public policy. The impact of increasing values on existing property has multiple implications. When existing residents, businesses, and property owners benefit from rising property values, neighborhoods are perceived as improving positively. When rising values displace people and force them to leave their communities without the ability to participate in these benefits, then most people recognize a serious negative impact. The City could address gentrification within the River Corridor by encouraging affordable housing, sound community planning on a neighborhood-by-neighborhood basis, establishing community benefits agreements to ensure that development benefits flow to affected local communities, meaningful community involvement in the implementation of projects, minimizing out-of-scale developments (such as excessive road width and parking), and partnering with community-based development organizations (such as community development corporations, community land trusts, and non-profit developers).

### SPECIFIC AREAS OF CONCERN FOR ECONOMIC DEVELOPMENT

- Loss of industrial land
- Lack of affordable housing
- Gentrification
- Impacts on railroad operation

## ECONOMIC DEVELOPMENT OBJECTIVES AND ANALYSES

### *Impact on railroad operations*

One of the economic realities of the current River configuration is the location of railroad tracks on both banks in the Downtown area. While consolidation of these tracks could create significant opportunities for River enhancements and economic development, these rail lines play an essential role in the local economy and in the movement of goods, services, and passengers through the region. River redevelopment plans, including those presented in this Plan, need to accept this reality and accommodate the needs of continued rail service in some form, while also anticipating possible future changes.

The economic analyses in the Plan are intended to:

- Demonstrate that River improvement will stimulate economic investment at many scales;
- Identify the types of opportunities and constraints which might affect economic development along the River and,
- Establish an economic development plan—or, more precisely, a range of alternatives—that can lead to substantial reinvestment in existing neighborhoods and redevelopment of underutilized sites, and can contribute to greater economic health and vitality along the River Corridor.

This Plan uses five Opportunity Areas as examples to demonstrate that numerous economic development scenarios are possible along the River, and to identify and estimate the magnitude of the potential economic benefits of the Plan.

Economic development analyses in this Plan follow five steps:

- 1) Identify urban design opportunities that may catalyze private economic development within the Opportunity Areas.
- 2) Demonstrate the range of potentials in the Opportunity Areas for generating private investment in response to River improvements.
- 3) Analyze the economic relationship between public investment in River improvements and the generation of private value.
- 4) Identify and estimate the amount of public and private expenditures that may be required over time, demonstrating the relationship between public investment, private investment, and potential capture of portions of private value created for reimbursement of public investment in the River.
- 5) Extrapolate, using the five Opportunity Areas as a basis, the total range of potential costs and revenues that may result, corridor wide, from implementation of the Plan.

## ECONOMIC DEVELOPMENT SCENARIOS

### The Opportunity Areas

Of the five Opportunity Areas described in Chapter 6 of the Plan, four were studied to evaluate their potential for economic development. The fifth, the Taylor Yard Opportunity Area, is an open space, habitat, and green connections opportunity. As with all the Opportunity Areas, the Taylor Yard Opportunity Area is also expected to realize an economic benefit associated with increases in property values that are typically associated with adjacency to new open spaces and trails. For each of the four Opportunity Areas evaluated the A and B alternatives were considered. The A alternative, in each case, was designed to indicate a moderate level of economic development with some acquisition of land for park space, new neighborhood connections, and consequent land use changes. The B alternative, in each case would involve significantly more dramatic change, suggesting the potential for a major economic development agenda for each Area. Each of these alternatives is hypothetical and intended to demonstrate only that, if economic development was pursued, new jobs, housing production, new businesses and tax revenues might result. Any actual agenda for economic development in these Areas is expected to come from a combination of community planning and private initiatives in response to River revitalization.

Public workshops revealed stronger preferences for specific alternatives at each Opportunity Area. For this reason, the following four alternatives are presented as “preferred” among all of those that were explored.

For each of the alternatives, a land use program was prepared and developed into a hypothetical design, as illustrated in the three-dimensional graphic models. Each of these models was developed to retain existing significant buildings and buildings of apparent historic character, to represent building plans, massing, and heights that are realistic in the marketplace under today’s market conditions, and to illustrate urban design improvements, such as new Parks and connections, Green Streets, activated

streets, and River and transit improvements. For each of the alternatives, assumptions were made regarding the types of uses, densities, and mix of building types that the market would support. Lastly, urban design considerations were applied to suggest that each of the proposed alternatives would result in neighborhoods that are more mixed, better connected, more active and walkable than exist in each area today. The result, for each alternative, is a drawing depicting the economic development potential that might be achieved and a corresponding summary that identifies existing and proposed land uses. This data provides the basis for the financial and economic development projections that follow.



Canoga Park Alt. A - Secondary



Canoga Park Alt. B - Preferred

## CANOGA PARK OPPORTUNITY AREA

For the Canoga Park Opportunity Area, the preferred Alternative B suggests that land could be acquired for River Park development and significant River restoration from the confluence of Bell Creek and the Arroyo Calabasas eastward. If such acquisitions and investments were made by the public sector, one could anticipate that, at some point, the Pratt and Whitney facility to the south of Vanowen Avenue might choose to relocate, allowing the site to be redeveloped. This would be a private business decision by Pratt and Whitney but, since economic change is rapidly taking place in the area, it is plausible that at some future time the company might choose to redevelop its property.

The public response to Alternative B was clearly in favor of making significant investments to improve the River. The three dimensional sketch of Alternative B on this page shows two to four-story mixed residential/retail buildings along the edges of the new parks, with taller buildings centered in a mixed-use walking district on the Pratt and Whitney site. This follows a pattern that has occurred in River revitalization projects in other cities. A Community Plan update for the area, if pursued to support Alternative B, would require some rezoning of industrial property for mixed uses and, hopefully, the establishment of additional design guidelines through the proposed River Improvement Overlay (RIO) district or a Specific Plan to ensure that economic and community development strategies are complementary with the Plan.

### Potential Development Program

<i>Canoga Alt. A - Secondary</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
2,441	238,676	-	-	7,269
<i>Canoga Alt. B - Preferred</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
6,194	374,690	1,026,944	-	18,189

## RIVER GLEN OPPORTUNITY AREA

In the River Glen Opportunity Area, the preferred alternative is Alternative A, the lower impact plan focusing on River greening and incremental redevelopment of existing industrial uses with cleaner and greener industrial uses over time. Alternative A proposes acquisition of recycling yards at the north end of the area to allow for dramatic expansion and greening of the confluence of Verdugo Wash with the River. It also includes establishment of a new street network within the industrial area to open up access, facilitate connections, and catalyze revitalization of industrial property. This area is currently zoned for industrial uses. A community Plan update for the area, if pursued to support Alternative A, may not require rezoning of the underlying land. However, establishment of additional design guidelines through the RIO or a Specific Plan would be important to ensure that economic and community development strategies are supportive of the environmental, water quality, sustainability, and connectivity objectives of the Plan.



River Glen Alt. A - Preferred



River Glen Alt. B - Secondary

### Potential Development Program

<i>River Glen Alt. A - Preferred</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
-	-	-	349,207	698
<i>River Glen Alt. B - Secondary</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
1,085	-	150,742	450,830	3,372



Chinatown/Cornfields Area Alt. A - Secondary



Chinatown/Cornfields Area Alt. B - Preferred

## CHINATOWN/CORNFIELDS OPPORTUNITY AREA

The William Mead public housing project and the Ann Street School are located in the middle of the Chinatown/Cornfields Opportunity Area. It is assumed in Alternative A that these uses would remain. In Alternative B, they could be rebuilt and incorporated into new development, something that has been accomplished in many other redevelopment projects.

Public response to the alternatives for this area strongly favored Alternative B, which creates a dramatic new recreational riverfront. In response to this, Alternative B is presented here with the most dramatic economic development proposal in this Plan. This alternative assumes that Main Street once again will become an important mixed-use walking street, an entertainment and shopping destination with a substantial mix of office and residential uses in dense buildings and towers at key locations, especially along the new riverfront. A destination riverfront with retail and restaurants, cafes, hotels, and opportunities for the arts could emerge. This new destination would likely cause substantial redevelopment, connecting the district continuously from the River to Chinatown. A Community Plan update for the area, if pursued to support Alternative B, would require substantial rezoning of industrial property for mixed-uses, and the establishment of additional design guidelines through the RIO or a Specific Plan to ensure that economic and community development strategies are mutually-complementary with the Plan.

### Potential Development Program

<i>Chinatown/Cornfields Alt. A - Secondary</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
3,041	589,584	1,477,114	147,270	8,219
<i>Chinatown/Cornfields Alt. B - Preferred</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
4,665	871,402	1,616,073	241,648	11,917

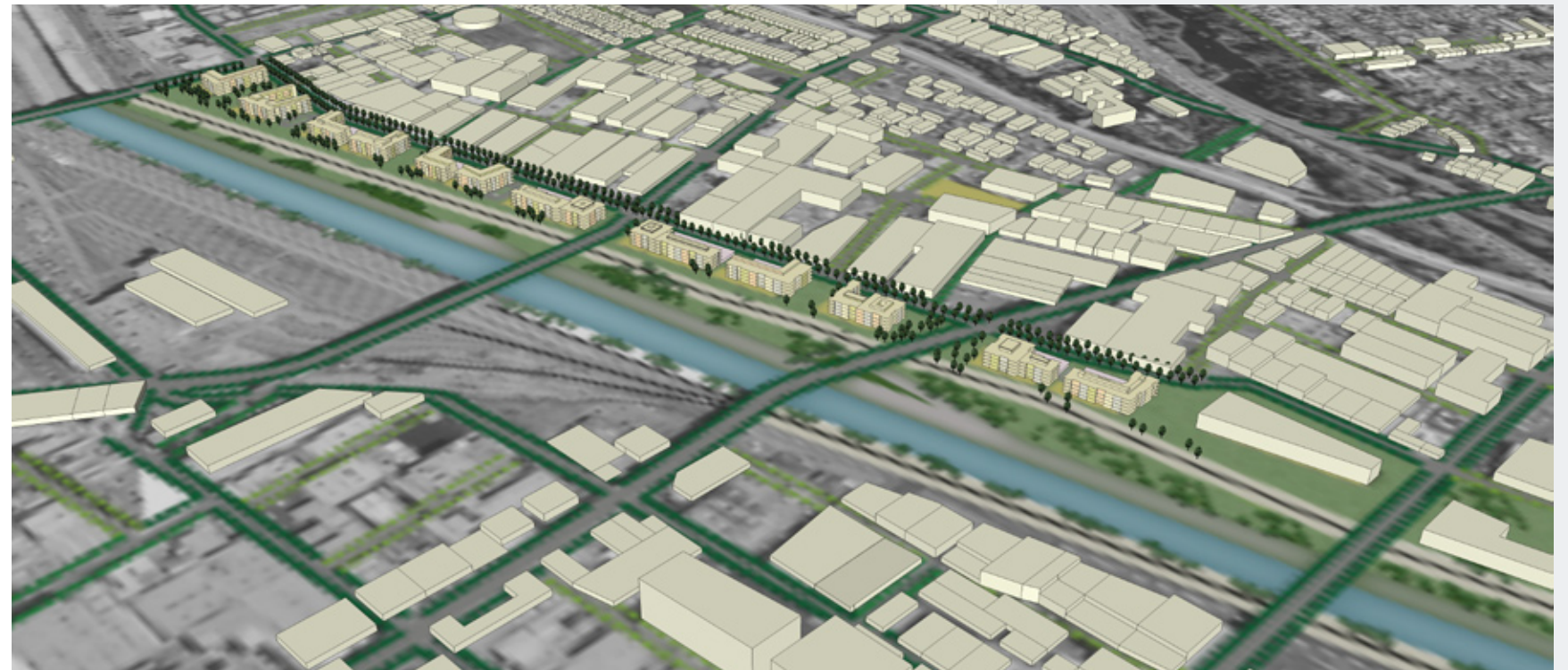
## DOWNTOWN INDUSTRIAL AREA

This area is the site of industrial warehouses formerly served by rail. Essentially all rail-served businesses have left the area. None of the rail spurs show signs of recent use east of Mission Road. The neighborhood contains substantial numbers of architecturally interesting buildings, and appears to be experiencing substantial reuse and creative occupancies in many locations. While the area is industrially-zoned, many small and larger businesses appear to be thriving, with artists and living accommodations mixed in among the established businesses. The area is under study by the Mayor’s Industrial Task Force and has been identified as an important location for working-class jobs. One report suggests that as many as 40 percent of the working population here walks or bikes to work, suggesting that the area is an important economic support base for the nearby Boyle Heights neighborhood.

For these reasons, the public appears to support Alternative A, which, in these studies, provides for only modest, incremental, market-driven land use changes. If carefully planned River improvements are made here, including new parks, Green Streets and connections shown in this Alternative, then new policies and, possibly, new land use controls will still be needed to protect existing businesses and uses from the land-value escalation that almost certainly would result.

### Potential Development Program

<i>Downtown Industrial Area Alt. A - Preferred</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
1,067	-	-	-	2,819
<i>Downtown Industrial Area Alt. B - Secondary</i>				
Residential (Units)	Retail (Sq./Ft.)	Office (Sq./Ft.)	Manufacturing	Parking
1,629	-	-	-	3,944



Downtown Industrial Area Alt. A - Preferred



Downtown Industrial Area Alt. B - Secondary

## ESTIMATES OF ECONOMIC DEVELOPMENT COSTS AND BENEFITS

It is impossible to forecast future economic benefits with precision. Nonetheless, it is common practice for economists to use past measures as general predictors of future performance. The Plan team projects the potential economic benefits, in terms of private investment, jobs creation, personal income, and sales tax and income tax revenues, for several of the hypothetical development alternatives drafted for the Opportunity Areas in the analyses that follow. These analyses do not represent an exact science. Methodologies include the following steps: first, the existing Opportunity Areas were identified; for each Opportunity Area, the existing condition was assessed, including estimates of current density of use based on aerial photographs, tax records, and site visits; from these assessments, estimates were developed for the current level of investment, jobs, income, and taxes. A more intangible benefit category that was not assessed was the increase in property value for properties near or adjacent to open space and green connection improvements. In numerous studies throughout the United States, development projects near or adjacent to green connections show property value increases of up to 6% over properties further removed from trail locations. (County of San Diego 2003)

The concept of “ecosystem services” is another recent advance in valuing potential benefits specifically associated with improvements in ecological function. “Ecosystem services” are used here to represent those functions that have historically been performed by natural systems and processes—like cooling the air or filtering stormwater—and which are now largely produced through mechanical systems. As a result, their value has often been overlooked in more traditional benefit-cost calculations. With the recent focus on restoration of ecosystem functions, however, techniques are being developed that attempt to quantify the benefits of wetland restoration with respect to downstream fish population health, or reduced flood insurance rates associated with improved flood management function. (RAND Corporation 2007)

While this type of modeling is still in its infancy and thus was not pursued for Taylor Yard Opportunity Area, it is clear that improvements there would provide additional open space, habitat, and green connections, and would have positive effects on adjacent

development. It provides an important opportunity to create a riverfront district based on principles of environmental sustainability and neighborhood connectivity to the River. Significant investment in the area has already taken place, including the 40-acre Río de Los Angeles State Park, which provides a mixture of active recreation and passive open space in a landmark City/State partnership to address the surrounding communities’ need for both types of park amenities. This park is highlighted by environmental features, such as a stormwater retention basin with constructed wetlands, native planting, bioswales, and selected permeable surfaces.

In addition, the San Fernando Road corridor multimodal transportation program—targeting the area from Fletcher Drive to Interstate 5—will provide traffic-calming measures, improved pedestrian and bicyclist safety, and will integrate intermodal connections and linkages to local historical, cultural, educational, recreational, and transit resources, such as the upcoming Los Angeles City College (LACC) satellite campus, the State Park, the Los Angeles River Center and Gardens, the LA River bikeway, the Avenue 26 Gold Line station, and the future Metrolink Station at Taylor Yard.

The Los Angeles Unified School District has identified a parcel at Taylor Yard for a new high school—envisioned as a green campus that will focus on environmental science and learning. Further north, the historic Van de Kamp’s Bakery will be a LEED (Leadership in Energy and Environmental Design) certified LACC campus with a vision that links social equity, economic development, and environmental stewardship through their Center for Urban Conservation. The facility will also feature workforce development offices.

On the Elysian Valley side of the Opportunity Area, a series of pocket parks are already in place along the River; these include Marsh Street Park, Egret Park and Steelhead Park. They serve as a model for future parks, such as the proposed Confluence Park to the south, which is currently being designed by the Santa Monica Mountains Conservancy. This Arroyo Seco confluence area provides a tremendous opportunity to reenvision a space that is heavily-dominated by infrastructure and publicly-owned facilities.

The investments in and around Taylor Yard thus far, combined with continued community input, provide an ideal opportunity to create a mixed use, riverfront village concept that demonstrates environmental principles as well as economic development opportunities.

The team developed alternative redevelopment scenarios for four of the five of the Opportunity Areas. For each redevelopment alternative, the team calculated the amount of potential new investment that could be allowed. Using current construction cost estimates, the current dollar value of new construction under each alternative was estimated.

From this number, the team worked with the Los Angeles Economic Development Corporation and used its own experience on similar projects to develop formulas for estimating the number of jobs, wage-levels, and tax revenues that could result from the specific densities and uses prescribed for each alternative in the Plan.

These calculations are summarized in the tables that follow. Note that there are four Opportunity Areas considered, and three calculations for each opportunity area: an existing condition, a medium-density Alternative A and a higher-density Alternative B.

For Alternative A, in total an estimated \$2.9 billion in new development at four Opportunity Areas could create over 52,000 short-term jobs (representing \$2.3 billion in wages), and create 10,500 permanent jobs, increasing wages earned in the economy by about \$360 million annually. The sales, income, property, and utility taxes collected could lead to a tax revenue gain that totals \$167 million per year during development, and a long-term increase in tax revenues of \$90 million per year after development.

For Alternative B, \$5.7 billion in development could create about 104,000 short-term jobs, representing \$4.5 billion in additional wages, and create about 19,000 long-term jobs, increasing wages earned in the economy by about \$740 million annually.

Governments could earn an additional \$331 million in total tax revenues during the development phases of the project, and could benefit from a permanent increase in tax revenues of about \$168 million per year.

For the preferred alternatives, Canoga Park Alt. B, River Glen Alt. A, Chinatown-Cornfields Alt. B, and the Downtown Industrial Area Alt. A, \$5.1 billion in development could create about 92,000 short-term jobs, representing \$4.0 billion in additional wages, and create about 17,500 long-term jobs, increasing wages earned in the economy by about \$798 million annually. Governments could earn an additional \$218 million in total tax revenues during the development phases of the project, and could benefit from a permanent increase in tax revenues of about \$155 million per year.

It should be noted that the financial benefits are shown on a “gross” basis. That is, public costs associated with the implementation and ongoing public expense for schools, parks, sewers, and other public facilities are not deducted to produce a “net” financial benefit or loss. The overall cost impacts to the affected government entities are difficult to predict in a project with the complexities of this Plan.

Similarly, quantifying financial benefits of the numerous proposed publicly-implemented River improvements is very difficult to rationally portray on a spreadsheet. Stated differently, as a decision-making tool, the analytic effort and challenge of measuring quantifiable costs against intangible qualitative benefits is probably more flawed than useful. For example, how are the financial benefits of better water quality measured in terms of the impact on neighborhood land values?

ESTIMATED SHORT-TERM ECONOMIC IMPACT ANALYSIS

**DEVELOPMENT PROGRAM**

 Preferred Alternative

	<u>Residential (units)</u>	<u>Retail (sq ft)</u>	<u>Office (sq ft)</u>	<u>Manufacturing (sq ft)</u>	<u>Parking (stalls)</u>
Canoga: Alternative A	2,441	238,676	-	-	7,269
Canoga: Alternative B	6,194	374,690	1,026,844	-	18,189
River Glen: Alternative A	-	-	-	349,207	698
River Glen: Alternative B	1,085	-	150,742	450,830	3,372
Chinatown Cornfields: Alternative A	3,041	589,584	1,477,114	147,270	8,219
Chinatown Cornfields: Alternative B	4,665	871,402	1,616,073	241,648	11,917
Downtown Industrial: Alternative A	1,067	-	-	-	2,819
Downtown Industrial: Alternative B	1,629	-	-	-	3,944
<i>Total Short-Term Program: Alternative A</i>	6,549	828,260	1,477,114	496,477	19,006
<i>Total Short-Term Program: Alternative B</i>	13,573	1,246,092	2,793,660	692,478	37,422
<i>Total Short-Term Program: Preferred Alternatives</i>	11,927	1,246,092	2,642,917	590,855	33,624

**ESTIMATED INVESTMENT**

**Assumptions:**

<i>Total investment (per unit)</i>	\$272,640	\$220	\$263	\$99	\$24,000
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**Estimated Investments:**

**Total**

Canoga: Alternative A	\$665,511,270	\$52,532,588	\$0	\$0	\$174,449,717	\$892,493,575
Canoga: Alternative B	\$1,688,738,213	\$82,469,269	\$269,751,919	\$0	\$436,527,178	\$2,477,486,579
River Glen: Alternative A	\$0	\$0	\$0	\$34,711,176	\$16,761,936	\$51,473,112
River Glen: Alternative B	\$295,684,815	\$0	\$39,599,998	\$44,812,502	\$80,932,655	\$461,029,971
Chinatown Cornfields: Alternative A	\$829,042,284	\$129,767,438	\$388,037,773	\$14,638,638	\$197,265,242	\$1,558,751,375
Chinatown Cornfields: Alternative B	\$1,271,985,042	\$191,795,580	\$424,542,490	\$24,019,811	\$286,015,515	\$2,198,358,439
Downtown Industrial: Alternative A	\$290,961,895	\$0	\$0	\$0	\$67,665,686	\$358,627,581
Downtown Industrial: Alternative B	\$444,224,442	\$0	\$0	\$0	\$94,648,529	\$538,872,971
<i>Total Short-Term Investment: Alternative A</i>	\$1,785,515,449	\$182,300,026	\$388,037,773	\$49,349,814	\$456,142,581	\$2,861,345,642
<i>Total Short-Term Investment: Alternative B</i>	\$3,700,632,513	\$274,264,849	\$733,894,407	\$68,832,313	\$898,123,877	\$5,675,747,959
<i>Total Short-Term Investment: Preferred Alternatives</i>	\$3,251,685,150	\$274,264,849	\$694,294,408	\$58,730,987	\$806,970,315	\$5,085,945,710

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED SHORT-TERM ECONOMIC IMPACT ANALYSIS

**SHORT-TERM JOB CREATION**

 Preferred Alternative

**Assumptions:**

"Person Years" of Short-Term Employment per \$100 million of investment:<sup>1</sup> 1826

**Estimated Benefits:**

	<u>Residential</u>	<u>Retail</u>	<u>Office</u>	<u>Manufacturing</u>	<u>Parking</u>	<u>Total</u>
Canoga: Alternative A	12,155	959	–	–	3,186	16,300
Canoga: Alternative B	30,842	1,506	4,927	–	7,973	45,248
River Glen: Alternative A	–	–	–	634	306	940
River Glen: Alternative B	5,400	–	723	818	1,478	8,420
Chinatown Cornfields: Alternative A	15,141	2,370	7,087	267	3,603	28,468
Chinatown Cornfields: Alternative B	23,231	3,503	7,754	439	5,224	40,150
Downtown Industrial: Alternative A	5,314	–	–	–	1,236	6,550
Downtown Industrial: Alternative B	8,113	–	–	–	1,729	9,842
<i>Total Short-Term Jobs Created: Alternative A</i>	32,610	3,329	7,087	901	8,331	52,258
<i>Total Short-Term Jobs Created: Alternative B</i>	67,587	5,009	13,404	1,257	16,403	103,660
<b><i>Total Short-Term Jobs Created, Preferred Alternatives</i></b>	<b>59,387</b>	<b>5,009</b>	<b>12,680</b>	<b>1,073</b>	<b>14,738</b>	<b>92,888</b>

<sup>1</sup> These calculations assume that every \$100 million of investment results in 1826 person-years of employment. This is equivalent to approximately 183 people being employed for a period of 10 years. (Source: Los Angeles Economic Development Corporation; Wilshire Vermont Study in Koreatown, 2003)

Calculation method: Jobs Created (in person-years) per \$100 million of construction costs multiplied by total development costs / \$100,000,000

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED SHORT-TERM ECONOMIC IMPACT ANALYSIS

**SHORT-TERM WAGES EARNED**

 Preferred Alternative

**Assumption:**

*Average construction worker annual wage* \$43,800

**Estimated Benefits:**

	<u>Residential</u>	<u>Retail</u>	<u>Office</u>	<u>Manufacturing</u>	<u>Parking</u>	<u>Total</u>
Canoga: Alternative A	\$532,366,794	\$42,022,737	\$0	\$0	\$139,548,706	\$713,938,237
Canoga: Alternative B	\$1,350,883,432	\$65,970,183	\$215,784,421	\$0	\$349,194,048	\$1,981,832,083
River Glen: Alternative A	\$0	\$0	\$0	\$27,766,738	\$13,408,485	\$41,175,224
River Glen: Alternative B	\$236,529,093	\$0	\$31,677,486	\$35,847,159	\$64,740,990	\$368,794,727
Chinatown Cornfields: Alternative A	\$663,181,230	\$103,805,718	\$310,405,600	\$11,709,982	\$157,799,678	\$1,246,902,208
Chinatown Cornfields: Alternative B	\$1,017,507,335	\$153,424,296	\$339,607,057	\$19,214,325	\$228,794,267	\$1,758,547,280
Downtown Industrial: Alternative A	\$232,751,056	\$0	\$0	\$0	\$54,136,188	\$286,887,244
Downtown Industrial: Alternative B	\$355,345,380	\$0	\$0	\$0	\$75,729,343	\$431,074,723
<i>Total Short-Term Wages Earned, Alternative A</i>	\$1,428,299,080	\$145,828,455	\$310,405,600	\$39,476,720	\$364,893,057	\$2,288,902,913
<i>Total Short-Term Wages Earned, Alternative B</i>	\$2,960,265,239	\$219,394,479	\$587,068,965	\$55,061,484	\$718,458,647	\$4,540,248,814
<i>Total Short-Term Wages Earned, Preferred Alternatives</i>	\$2,601,141,823	\$219,394,479	\$555,391,479	\$46,981,064	\$645,532,987	\$4,068,441,831

Calculation method: Short-term jobs created multiplied by average construction wage

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED SHORT-TERM ECONOMIC IMPACT ANALYSIS

**SHORT-TERM SALES TAX REVENUE**

 Preferred Alternative

**Assumption:**

*Taxable consumption (% of wages)* 24%  
*Sales tax (% of taxable consumption)* 8%

**Estimated Benefits:**

	<b>To State (4.75%)</b>	<b>To City (1%)</b>	<b>To County (1%)</b>	<b>To Transit Authority (1%)</b>	<b>Total (8%)</b>
Canoga: Alternative A	\$8,138,896	\$1,713,452	\$1,713,452	\$1,713,452	\$13,707,614
Canoga: Alternative B	\$22,592,886	\$4,756,397	\$4,756,397	\$4,756,397	\$38,051,176
River Glen: Alternative A	\$469,398	\$98,821	\$98,821	\$98,821	\$790,564
River Glen: Alternative B	\$4,204,260	\$885,107	\$885,107	\$885,107	\$7,080,859
Chinatown Cornfields: Alternative A	\$14,214,685	\$2,992,565	\$2,992,565	\$2,992,565	\$23,940,522
Chinatown Cornfields: Alternative B	\$20,047,439	\$4,220,513	\$4,220,513	\$4,220,513	\$33,764,108
Downtown Industrial Alternative A	\$3,270,424	\$688,510	\$668,510	\$688,510	\$5,508,083
Downtown Industrial Alternative B	\$4,914,132	\$1,034,554	\$1,034,554	\$1,034,554	\$8,276,432
<i>Total Short-Term Sales Tax Revenue: Alternative A</i>	\$26,093,403	\$5,493,348	\$5,493,348	\$5,493,348	\$43,946,784
<i>Total Short-Term Sales Tax Revenue: Alternative B</i>	\$51,758,716	\$10,896,572	\$10,896,572	\$10,896,572	\$87,172,575
<i>Total Short-Term Sales Tax Revenue, Preferred Alternatives</i>	\$46,380,146	\$9,764,241	\$9,764,241	\$9,764,241	\$78,113,931

Calculation method: Total wages earned multiplied by estimated taxable consumption multiplied by sales tax rate

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED SHORT-TERM ECONOMIC IMPACT ANALYSIS

**SHORT-TERM STATE INCOME TAX REVENUE**

 Preferred Alternative

**Assumption:**

State income tax (% of wages) 5.38%

**Estimated Benefits:**

	<b>Total</b>
Canoga: Alternative A	
Canoga: Alternative B	\$38,409,877
River Glen: Alternative A	\$106,622,566
River Glen: Alternative B	\$2,215,227
Chinatown Cornfields: Alternative A	\$19,841,156
Chinatown Cornfields: Alternative B	\$67,083,339
Downtown Industrial: Alternative A	\$94,609,844
Downtown Industrial: Alternative B	\$15,434,107
	\$23,191,253
<i>Total Short-Term State Income Tax Revenue: Alternative A</i>	\$123,142,550
<i>Total Short-Term State Income Tax Revenue: Alternative B</i>	\$244,264,819
<b><i>Total Short-Term State Income Tax Revenue, Preferred Alternatives</i></b>	<b>\$218,881,744</b>

Calculation method: Total wages earned multiplied by state income tax

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED LONG-TERM ECONOMIC IMPACT ANALYSIS

Preferred Alternative

**LONG-TERM JOB CREATION**

<b>Assumptions:</b>	<b>Residential (jobs per unit)</b>	<b>Retail (jobs per 1000 sq ft)</b>	<b>Office (jobs per 1000 sq ft)</b>	<b>Manufacturing (jobs per 1000 sq ft)</b>	<b>Total</b>
<i>Job rate in existing development</i>	0.15	2	1.5	0.75	
<i>Job rate in new development</i>	0.31	4	3.0	1.5	
<b>Estimated Benefits:</b>					
Canoga Existing: Alternative A	15	–	211	211	437
Canoga: Alternative A	752	955	–	–	1,706
Canoga: Existing: Alternative B	49	10	275	693	1,027
<b>Canoga: Alternative B</b>	<b>1,907</b>	<b>1,499</b>	<b>3,081</b>	<b>–</b>	<b>6,486</b>
River Glen: Existing	–	–	–	496	496
<b>River Glen: Alternative A</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>524</b>	<b>524</b>
River Glen: Alternative B	334	–	452	676	1,462
Chinatown Cornfields: Existing	52	–	227	599	878
Chinatown Cornfields: Alternative A	936	2,358	4,431	221	7,947
<b>Chinatown Cornfields: Alternative B</b>	<b>1,437</b>	<b>3,486</b>	<b>4,848</b>	<b>362</b>	<b>10,133</b>
Downtown Industrial: Existing	–	–	–	204	204
<b>Downtown Industrial: Alternative A</b>	<b>329</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>329</b>
Downtown Industrial: Alternative B	<u>502</u>	<u>–</u>	<u>–</u>	<u>–</u>	<u>502</u>
<i>Total Long-Term Jobs Created: Existing</i>	67	–	438	1,509	2,014
<i>Total Long-Term Jobs Created: Alternative A</i>	2,016	3,313	4,431	745	10,505
<i>Total Long-Term Jobs Created: Alternative B</i>	4,180	4,984	8,381	1,039	18,583
<b>Total Long-Term Jobs Created: Preferred Alternatives</b>	<b>3,672</b>	<b>4,984</b>	<b>7,929</b>	<b>886</b>	<b>17,472</b>

NOTE: The Canoga Opportunity Area's data, above, for "existing" conditions are shown separately for Alternative A and Alternative B due to their differences in the total land area for which changes are being proposed. The calculation for the "existing" condition showing the total for all Opportunity Areas uses Canoga Existing Alternative A plus the "existing" data for the other three Opportunity Areas.

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED LONG-TERM ECONOMIC IMPACT ANALYSIS

Preferred Alternative					
<b>LONG-TERM ANNUAL WAGES EARNED</b>					
<b>Assumption:</b>	<b><u>Residential</u></b>	<b><u>Retail</u></b>	<b><u>Office</u></b>	<b><u>Manufacturing</u></b>	<b><u>Total</u></b>
<i>Average annual wage</i> <sup>1</sup>	\$36,614	\$28,099	\$60,000	\$55,000	
<b>Estimated Benefits:</b>					
Canoga: Existing: Alternative A	\$529,299	\$0	\$12,672,000	\$11,614,969	\$24,816,268
Canoga: Alternative A	\$27,517,778	\$26,826,572	\$0	\$0	\$54,344,350
Canoga: Existing: Alternative B	\$1,794,536	\$278,184	\$16,474,500	\$38,121,188	\$56,668,407
<b>Canoga: Alternative B</b>	<b>\$69,826,501</b>	<b>\$42,114,198</b>	<b>\$184,831,920</b>	<b>\$0</b>	<b>\$296,772,619</b>
River Glen: Existing	\$0	\$0	\$0	\$27,259,031	\$27,259,031
<b>River Glen: Alternative A</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$28,809,578</b>	<b>\$28,809,578</b>
River Glen: Alternative B	\$12,226,073	\$0	\$27,133,611	\$37,193,475	\$76,553,159
Chinatown Cornfields: Existing	\$1,911,242	\$0	\$13,590,000	\$32,934,206	\$48,435,449
Chinatown Cornfields: Alternative A	\$34,279,512	\$66,267,735	\$265,880,469	\$12,149,775	\$378,577,490
<b>Chinatown Cornfields: Alternative B</b>	<b>\$52,594,454</b>	<b>\$97,943,358</b>	<b>\$290,893,217</b>	<b>\$19,935,960</b>	<b>\$461,366,989</b>
Downtown Industrial: Existing	\$0	\$0	\$0	\$11,211,750	\$11,211,750
<b>Downtown Industrial: Alternative A</b>	<b>\$12,030,788</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$12,030,788</b>
Downtown Industrial: Alternative B	\$18,367,938	\$0	\$0	\$0	\$18,367,938
<i>Total Long-Term Annual Wages Earned: Existing</i>	\$2,440,541	\$0	\$26,262,000	\$83,019,956	\$111,722,497
<i>Total Long-Term Annual Wages Earned: Alternative A</i>	\$73,828,078	\$93,094,307	\$265,880,469	\$40,959,353	\$473,762,206
<i>Total Long-Term Annual Wages Earned: Alternative B</i>	\$153,014,965	\$140,057,556	\$502,858,749	\$57,129,435	\$853,060,705
<b>Total Long-Term Annual Wages Earned: Preferred Alternatives</b>	<b>\$134,451,743</b>	<b>\$140,057,556</b>	<b>\$475,725,137</b>	<b>\$48,745,538</b>	<b>\$798,979,973</b>

<sup>1</sup> Based on LAEDC data and other supporting studies for average wages in each category.

NOTE: The Canoga Opportunity Area's data, above, for "existing" conditions are shown separately for Alternative A and Alternative B due to their differences in the total land area for which changes are being proposed. The calculation for the "existing" condition showing the total for all Opportunity Areas uses Canoga Existing Alternative A plus the "existing" data for the other three Opportunity Areas.

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED LONG-TERM ECONOMIC IMPACT ANALYSIS

**LONG-TERM ANNUAL SALES TAX REVENUE**

Preferred Alternative

**Assumption:**

Taxable consumption (% of wages) 24%  
 Sales tax (% of taxable consumption) 8%

<b>Estimated Benefits:</b>	<b>To State (4.75%)</b>	<b>To City (1%)</b>	<b>To County (1%)</b>	<b>To Trans. Auth. (1%)</b>	<b>Total (8%)</b>
Canoga: Existing: Alternative A	\$282,905	\$59,559	\$59,559	\$59,559	\$476,472
Canoga: Alternative A	\$619,526	\$130,426	\$130,426	\$130,426	\$1,043,412
Canoga: Existing: Alternative B	\$646,020	\$136,004	\$136,004	\$136,004	\$1,088,033
<b>Canoga: Alternative B</b>	<b>\$3,383,208</b>	<b>\$712,254</b>	<b>\$712,254</b>	<b>\$712,254</b>	<b>\$5,698,034</b>
River Glen: Existing	\$310,753	\$65,422	\$65,422	\$65,422	\$523,373
<b>River Glen: Alternative A</b>	<b>\$328,429</b>	<b>\$69,143</b>	<b>\$69,143</b>	<b>\$69,143</b>	<b>\$553,144</b>
River Glen: Alternative B	\$872,706	\$183,728	\$183,728	\$183,728	\$1,469,821
Chinatown Cornfields: Existing	\$552,164	\$116,245	\$116,245	\$116,245	\$929,961
Chinatown Cornfields: Alternative A	\$4,315,783	\$908,586	\$908,586	\$908,586	\$7,268,688
<b>Chinatown Cornfields: Alternative B</b>	<b>\$5,259,584</b>	<b>\$1,107,281</b>	<b>\$1,107,281</b>	<b>\$1,107,281</b>	<b>\$8,858,246</b>
Downtown Industrial: Existing	\$127,814	\$26,908	\$26,908	\$26,908	\$215,266
<b>Downtown Industrial: Alternative A</b>	<b>\$137,151</b>	<b>\$28,874</b>	<b>\$28,874</b>	<b>\$28,874</b>	<b>\$230,991</b>
Downtown Industrial: Alternative B	\$209,394	\$44,083	\$44,083	\$44,083	\$352,664
<i>Total Long-Term Annual Sales Tax Revenue: Existing</i>	\$1,273,636	\$268,134	\$268,134	\$268,134	\$2,145,072
<i>Total Long-Term Annual Sales Tax Revenue: Alternative A</i>	\$5,400,889	\$1,137,029	\$1,137,029	\$1,137,029	\$9,096,234
<i>Total Long-Term Annual Sales Tax Revenue: Alternative B</i>	\$9,724,892	\$2,047,346	\$2,047,346	\$2,047,346	\$16,378,766
<b>Total Long-Term Annual Sales Tax Revenue: Preferred Alternatives</b>	<b>\$9,108,372</b>	<b>\$1,917,552</b>	<b>\$1,917,552</b>	<b>\$1,917,552</b>	<b>\$15,340,415</b>

*Calculation method: Total wages earned multiplied by estimated taxable consumption, multiplied by sales tax rate*

*NOTE: The Canoga Opportunity Area's data, above, for "existing" conditions are shown separately for Alternative A and Alternative B due to their differences in the total land area for which changes are being proposed. The calculation for the "existing" condition showing the total for all Opportunity Areas uses Canoga Existing Alternative A plus the "existing" data for the other three Opportunity Areas.*

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED LONG-TERM ECONOMIC IMPACT ANALYSIS

Preferred Alternative

**LONG-TERM ANNUAL STATE INCOME TAX REVENUE**

**Assumption:**

State income tax (% of wages) 5.38%

**Estimated Benefits:**

	<b>Total</b>
Canoga: Existing: Alternative A	\$1,335,115
Canoga: Alternative A	\$2,923,726
Canoga: Existing: Alternative B	\$3,048,760
Canoga: Alternative B	\$15,966,367
River Glen: Existing	\$1,466,536
River Glen: Alternative A	\$1,549,955
River Glen: Alternative B	\$4,118,560
Chinatown Cornfields: Existing	\$2,605,827
Chinatown Cornfields: Alternative A	\$20,367,469
Chinatown Cornfields: Alternative B	\$24,821,544
Downtown Industrial: Existing	\$603,192
Downtown Industrial: Alternative A	\$647,256
Downtown Industrial: Alternative B	\$988,195
<i>Total Long-Term Annual Income Tax Revenue: Existing</i>	<i>\$6,010,670</i>
<i>Total Long-Term Annual Income Tax Revenue: Alternative A</i>	<i>\$25,488,407</i>
<i>Total Long-Term Annual Income Tax Revenue: Alternative B</i>	<i>\$45,894,666</i>
<i>Total Long-Term Annual Income Tax Revenue: Preferred Alternatives</i>	<i>\$42,985,123</i>

Calculation method: Total wages earned multiplied by state income tax

*NOTE: The Canoga Opportunity Area's data, above, for "existing" conditions are shown separately for Alternative A and Alternative B due to their differences in the total land area for which changes are being proposed. The calculation for the "existing" condition showing the total for all Opportunity Areas uses Canoga Existing Alternative A plus the "existing" data for the other three Opportunity Areas.*

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED LONG-TERM ECONOMIC IMPACT ANALYSIS

 Preferred Alternative

**LONG-TERM ANNUAL PROPERTY TAX REVENUE**

**Assumptions:**

**Land Area  
(sq ft)**

<i>Canoga: Alternative A</i>	2,274,338
<i>Canoga: Alternative B</i>	5,147,631
<i>River Glen: Alternative A</i>	1,881,428
<i>River Glen: Alternative B</i>	1,881,428
<i>Chinatown Cornfields: Alternative A</i>	2,989,607
<i>Chinatown Cornfields: Alternative B</i>	4,028,963
<i>Downtown Industrial Alternative A</i>	154,469
<i>Downtown Industrial Alternative B</i>	154,469

**Values Used in the Analysis of Projected Property Tax Revenue:**

**Property  
Value (psf)**

<i>Land: Existing</i>	\$20
<i>Land: Alternative A</i>	\$200
<i>Land: Alternative B</i>	\$250
<i>Existing Structures</i>	\$100
<i>Property Tax (% of property value)</i>	1.20%

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED LONG-TERM ECONOMIC IMPACT ANALYSIS

Preferred Alternative

<b><i>Estimated Benefits:</i></b>	<b><u>Land Value</u></b>	<b><u>Structure Value</u></b>	<b><u>Total Property Value</u></b>	<b><u>Total Annual Property Tax Revenue</u></b>
Canoga: Existing: Alternative A	\$45,486,760	\$53,802,500	\$99,289,260	\$1,191,471
Canoga: Alternative A	\$454,867,600	\$892,493,575	\$1,347,361,175	\$16,168,334
Canoga: Existing: Alternative B	\$102,952,620	\$150,425,000	\$253,377,620	\$3,040,531
Canoga: Alternative B	\$1,286,907,750	\$2,477,486,579	\$3,764,394,329	\$45,172,732
River Glen: Existing	\$37,628,560	\$66,082,500	\$103,711,060	\$1,244,533
River Glen: Alternative A	\$376,285,600	\$51,473,112	\$427,758,712	\$5,133,105
River Glen: Alternative B	\$470,357,000	\$461,029,971	\$931,386,971	\$11,176,644
Chinatown Cornfields: Existing	\$80,579,260	\$136,700,500	\$217,279,760	\$2,607,357
Chinatown Cornfields: Alternative A	\$805,792,600	\$1,558,751,375	\$2,364,543,975	\$28,374,528
Chinatown Cornfields: Alternative B	\$1,007,240,750	\$2,198,358,439	\$3,205,599,189	\$38,467,190
Downtown Industrial: Existing	\$3,089,380	\$27,180,000	\$30,269,380	\$363,233
Downtown Industrial: Alternative A	\$30,893,800	\$358,627,581	\$389,521,351	\$4,674,257
Downtown Industrial: Alternative B	\$38,617,250	\$538,872,971	\$577,490,221	\$6,929,883
<i>Total Long-Term Annual Property Tax Revenue: Existing</i>	\$166,783,960	\$283,765,500	\$450,549,460	\$5,406,594
<i>Total Long-Term Annual Property Tax Revenue: Alternative A</i>	\$1,667,839,600	\$2,861,345,642	\$4,529,185,242	\$54,350,223
<i>Total Long-Term Annual Property Tax Revenue: Alternative B</i>	\$2,803,122,750	\$5,675,747,959	\$8,478,870,709	\$101,746,449
<b><i>Total Long-Term Annual Property Tax Revenue: Preferred Alternatives</i></b>	<b>\$2,701,327,900</b>	<b>\$5,085,945,710</b>	<b>\$7,787,273,610</b>	<b>\$93,447,283</b>

*NOTE: The Canoga Opportunity Area's data, above, for "existing" conditions are shown separately for Alternative A and Alternative B due to their differences in the total land area for which changes are being proposed. The calculation for the "existing" condition showing the total for all Opportunity Areas uses Canoga Existing Alternative A plus the "existing" data for the other three Opportunity Areas.*

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

ESTIMATED LONG-TERM ECONOMIC IMPACT ANALYSIS

Preferred Alternative

**UTILITY TAX REVENUES (ANNUAL)**

	Residential	Office	Retail	Manufacturing	
Average Electrical Use	\$1,787	\$1,735	\$1,735	\$670	
Average Water Use	\$209	\$167	\$167	\$89	
Total Utility Use	\$1,996 per unit	\$1,902 per 1000 sq ft	\$1,902 per 1000 sq ft	\$759 per 1000 sq ft	
Tax Rate on utilities	10.0%	12.5%	12.5%	12.5%	
Total Utility Tax Revenues Collected					<b>Total</b>
Canoga: Existing: Alternative A	\$19,236	\$0	\$33,476	\$26,718	\$79,430
Canoga: Alternative A	\$487,221	\$44,725	\$0	\$0	\$531,946
Canoga: Existing: Alternative B	\$65,219	\$928	\$43,521	\$87,689	\$197,357
<b>Canoga: Alternative B</b>	<b>\$1,236,327</b>	<b>\$70,212</b>	<b>\$244,139</b>	<b>\$0</b>	<b>\$1,550,678</b>
River Glen: Existing	\$0	\$0	\$0	\$62,703	\$62,703
<b>River Glen: Alternative A</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$33,135</b>	<b>\$33,135</b>
River Glen: Alternative B	\$216,471	\$0	\$35,640	\$42,778	\$294,889
Chinatown Cornfields: Existing	\$69,461	\$0	\$35,901	\$75,758	\$181,120
Chinatown Cornfields: Alternative A	\$606,943	\$110,480	\$351,193	\$13,974	\$1,082,590
<b>Chinatown Cornfields: Alternative B</b>	<b>\$931,221</b>	<b>\$163,289</b>	<b>\$384,232</b>	<b>\$22,929</b>	<b>\$1,501,671</b>
Downtown Industrial: Existing	\$0	\$0	\$0	\$25,790	\$25,790
<b>Downtown Industrial: Alternative A</b>	<b>\$213,013</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$213,013</b>
Downtown Industrial: Alternative B	\$325,217	\$0	\$0	\$0	\$325,217
<i>Total Long-Term Utility Tax Revenue: Existing</i>	\$88,697	\$0	\$69,377	\$190,969	\$349,043
<i>Total Long-Term Utility Tax Revenue: Alternative A</i>	\$1,307,177	\$155,205	\$351,193	\$47,109	\$1,860,684
<i>Total Long-Term Utility Tax Revenue: Alternative B</i>	\$2,709,236	\$233,501	\$664,011	\$65,707	\$3,672,455
<b><i>Total Long-Term Utility Tax Revenue: Preferred Alternatives</i></b>	<b>\$2,380,561</b>	<b>\$233,501</b>	<b>\$628,371</b>	<b>\$56,064</b>	<b>\$3,298,497</b>

Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

SUMMARY OF BENEFITS

<b>PREFERRED ALTERNATIVES:</b>	<b>Canoga: Alternative B</b>	<b>River Glen: Alternative A</b>	<b>Chinatown Cornfields: Alternative B</b>	<b>Downtown Industrial: Alternative A</b>	<b>Total</b>
<b>Development Program:</b>					
Residential (units)	6,194	–	4,665	1,067	11,926
Retail (sq ft)	374,690	–	871,402	–	1,246,092
Office (sq ft)	1,026,844	–	1,616,073	–	2,642,917
Manufacturing (sq ft)	–	349,207	241,648	–	590,855
Parking (stalls)	18,189	698	11,917	2,819	33,623
<b>Estimated Investment:</b>					
Residential	\$1,688,738,213	\$0	\$1,271,985,042	\$290,961,895	\$3,251,685,150
Retail	\$82,469,269	\$0	\$191,795,580	\$0	\$274,264,849
Office	\$269,751,919	\$0	\$424,542,490	\$0	\$694,294,408
Manufacturing	\$0	\$34,711,176	\$24,019,811	\$0	\$58,730,987
Parking	\$436,527,178	\$16,761,936	\$286,015,515	\$67,665,686	\$806,970,315
<b>Total</b>	<b>\$2,477,486,579</b>	<b>\$51,473,112</b>	<b>\$2,198,358,439</b>	<b>\$358,627,581</b>	<b>\$5,085,945,710</b>
<b>Estimated Short-Term Benefits:</b>					
Job Creation	45,248	940	40,150	6,550	92,888
Wages Earned	\$1,981,832,083	\$41,175,224	\$1,758,547,280	\$286,879,312	\$4,068,433,899
Sales Tax Revenue	\$38,051,176	\$790,564	\$33,764,108	\$5,508,083	\$78,113,931
State Income Tax Revenue	\$106,622,566	\$2,215,227	\$94,609,844	\$15,434,107	\$218,881,744
<b>Estimated Long-Term Benefits:</b>					
Job Creation	6,486	524	10,133	329	17,472
Annual Wages Earned	\$296,772,619	\$28,809,578	\$461,366,989	\$12,030,788	\$798,979,973
Annual Sales Tax Revenues	\$5,698,034	\$553,144	\$8,858,246	\$230,991	\$15,340,415
Annual State Income Tax Revenue	\$15,966,367	\$1,549,955	\$24,821,544	\$647,256	\$42,985,123
Annual Property Tax Revenue	\$45,172,732	\$5,133,105	\$38,467,190	\$4,674,257	\$93,447,284
Annual Utility Tax Revenue	\$349,043	\$1,860,684	\$3,672,654	\$3,298,496	\$9,180,877

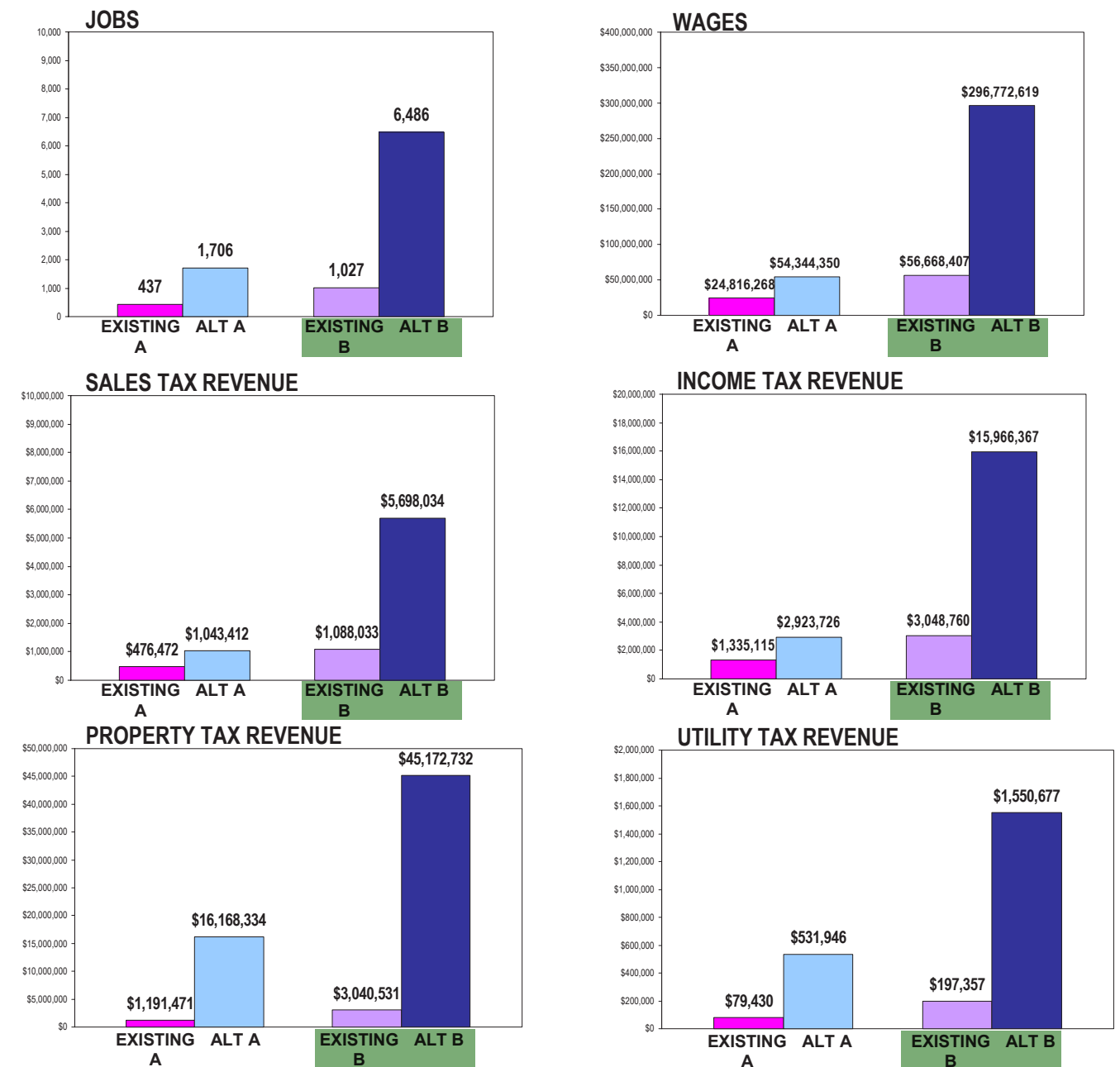
Please note again that these figures should not be construed as exact predictions. Rather, they are approximations of the magnitude of benefits which could flow to the public from River development.

### CANOGA PARK OPPORTUNITY AREA

#### Short-term Economic Impacts



#### Long-term Economic Impacts

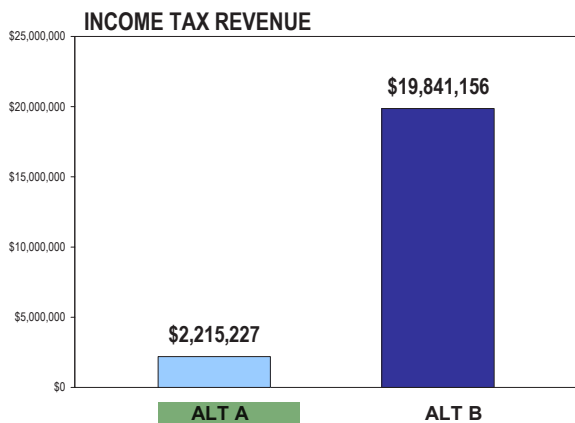
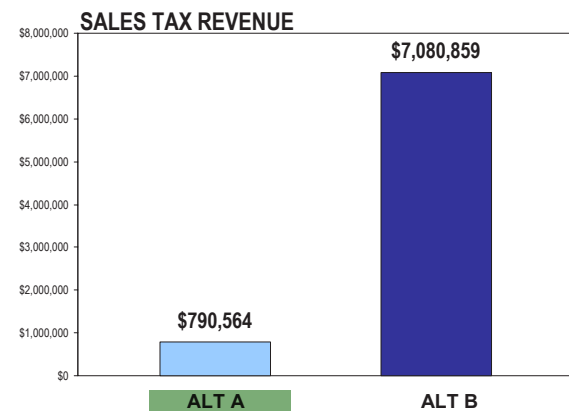
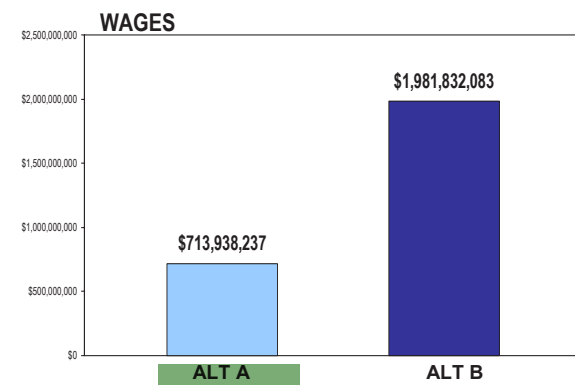
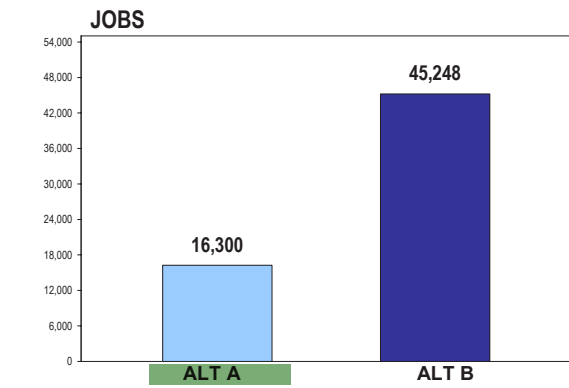


Preferred Alternative

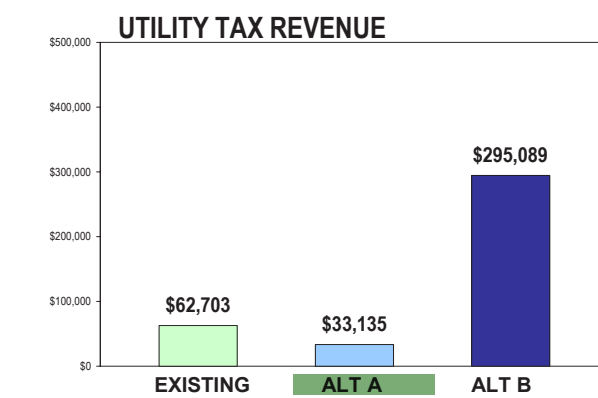
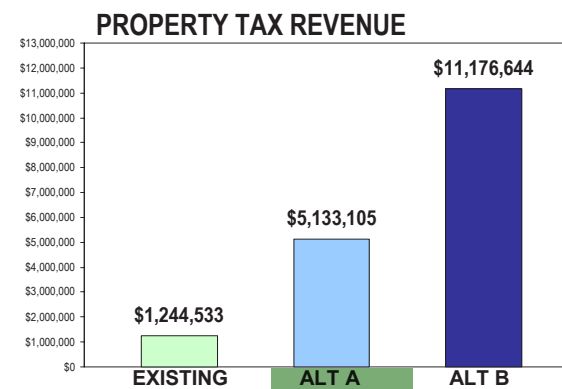
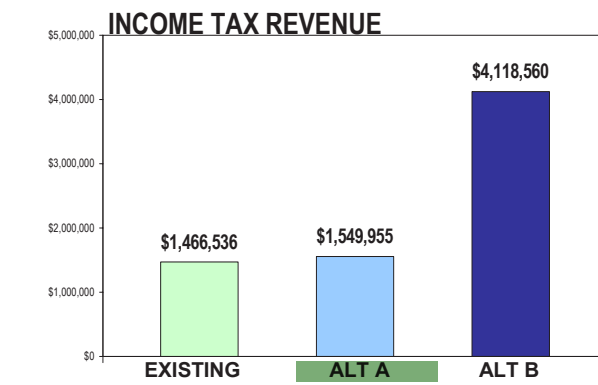
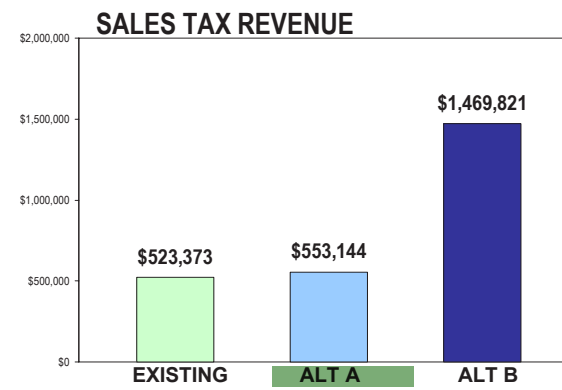
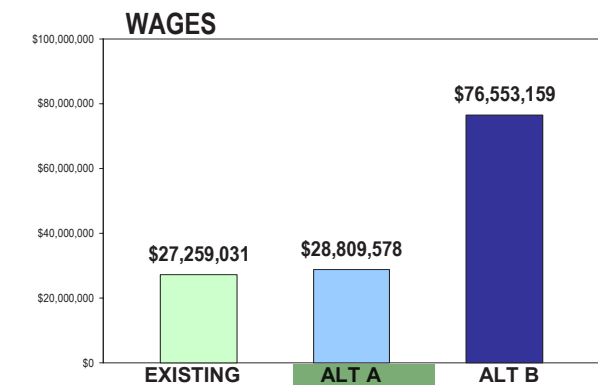
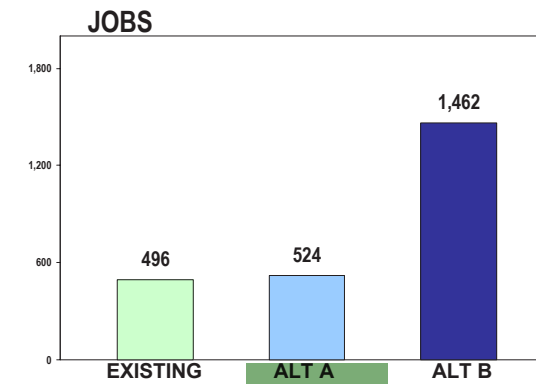
Note: Wage and Tax estimates are in \$ per annum

RIVER GLEN OPPORTUNITY AREA

Short-term Economic Impacts



Long-term Economic Impacts



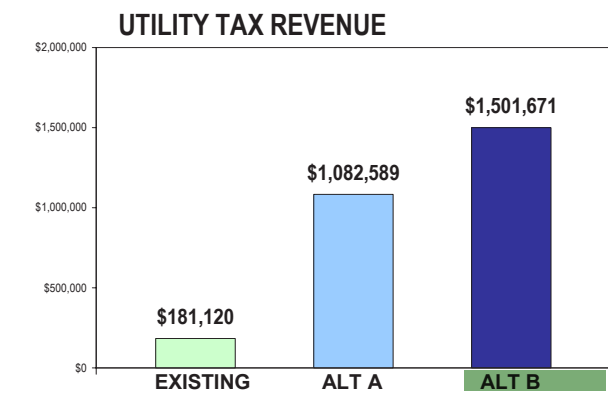
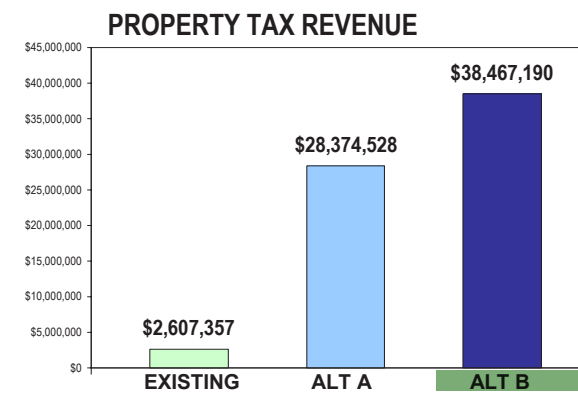
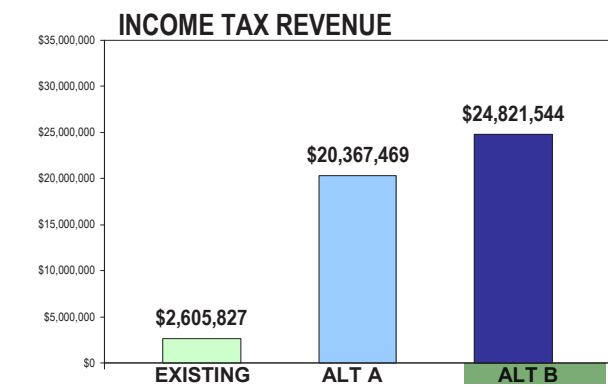
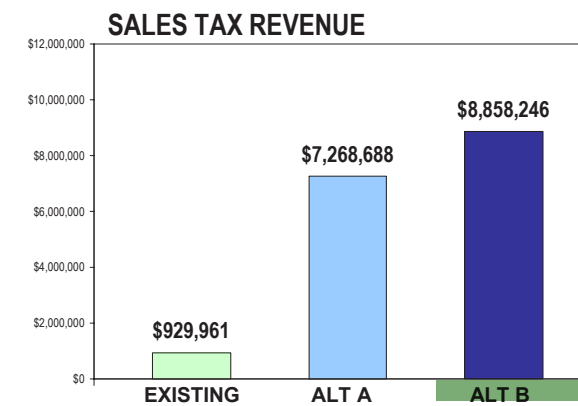
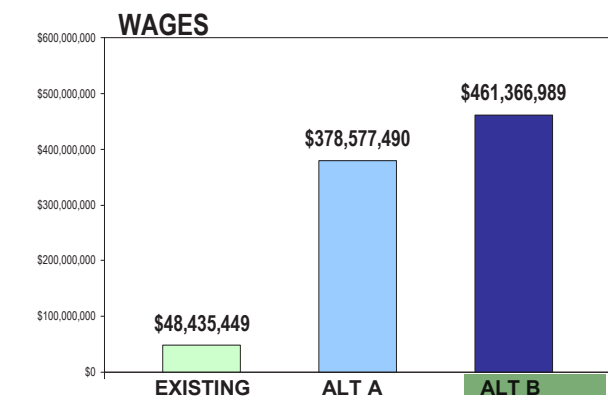
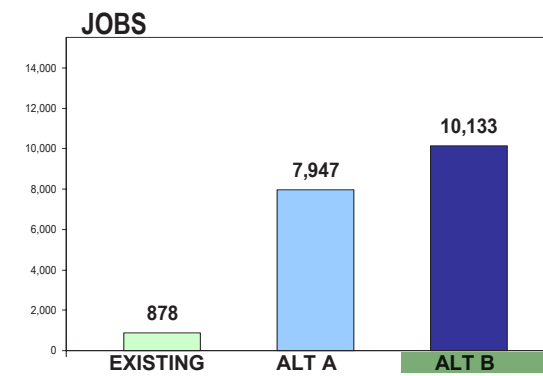
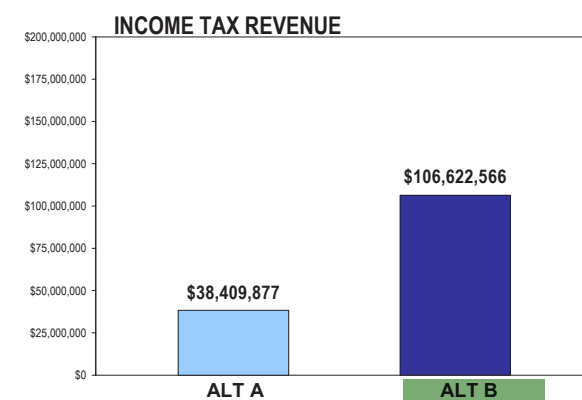
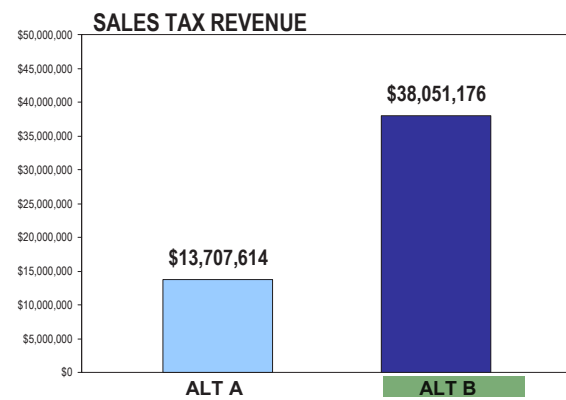
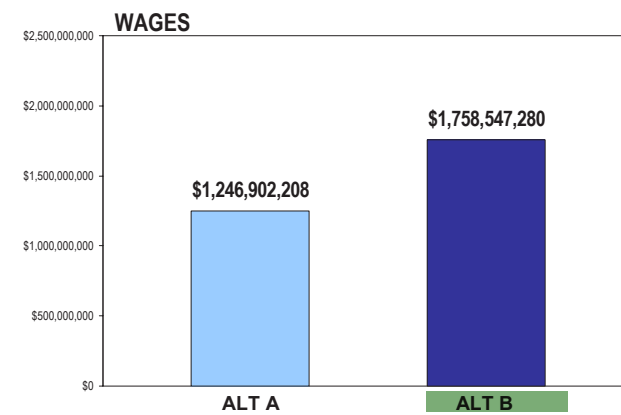
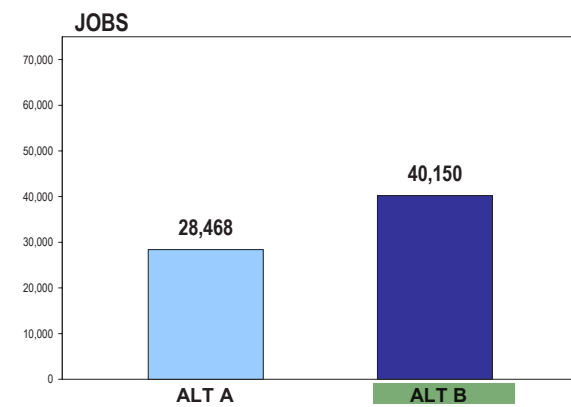
Preferred Alternative

Note: Wage and Tax estimates are in \$ per annum

## CHINATOWN/CORNFIELD OPPORTUNITY AREA

### Short-term Economic Impacts

### Long-term Economic Impacts



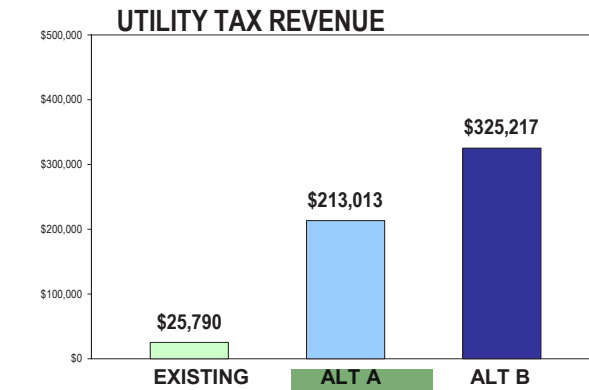
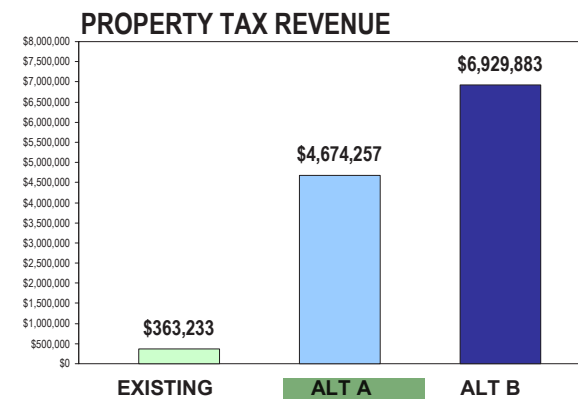
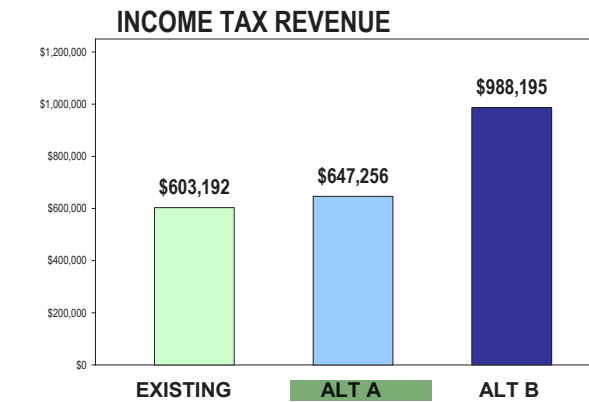
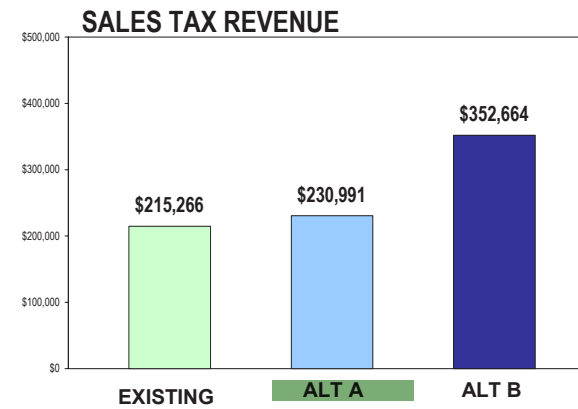
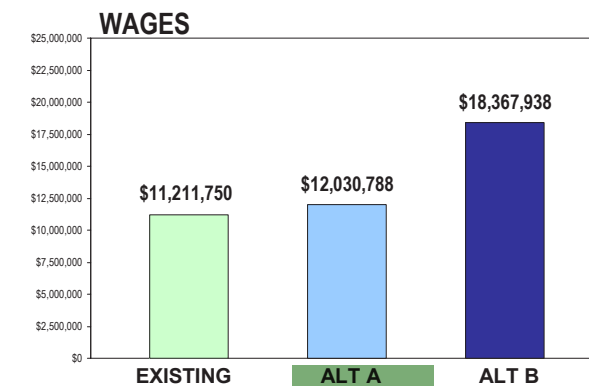
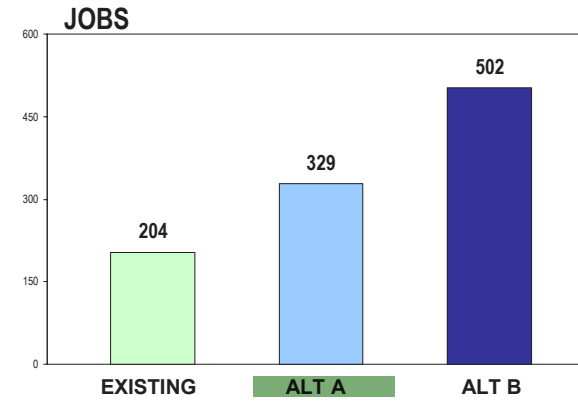
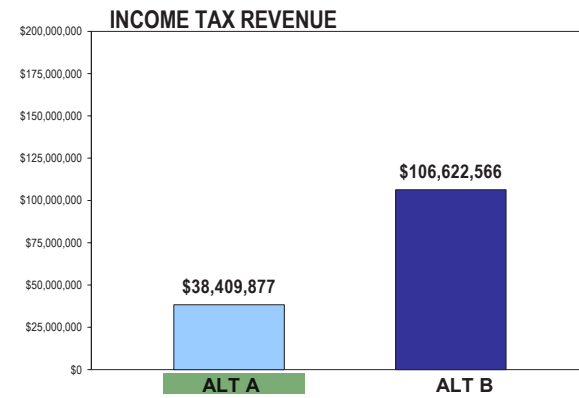
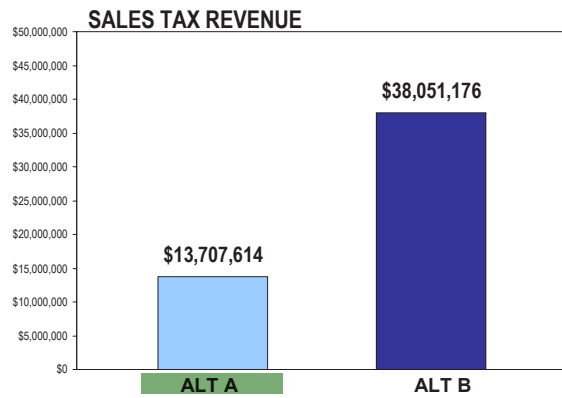
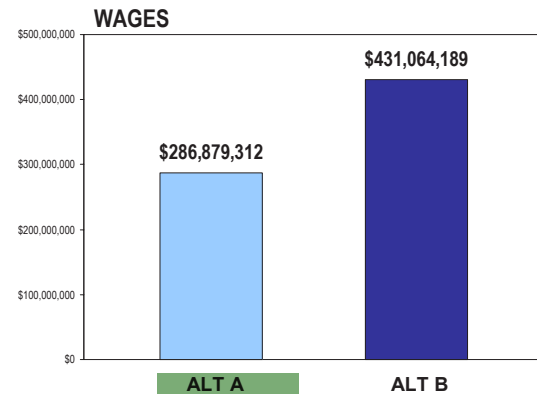
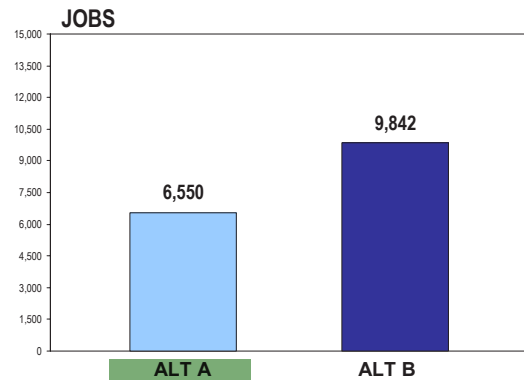
 Preferred Alternative

Note: Wage and Tax estimates are in \$ per annum

DOWNTOWN INDUSTRIAL OPPORTUNITY AREA

Short-term Economic Impacts

Long-term Economic Impacts



Preferred Alternative

Note: Wage and Tax estimates are in \$ per annum

## SUMMARY OF ECONOMIC IMPACTS

The total estimated “coverage” provided by anticipated future private investment is projected by this analysis to be four times the amount of public investment that is projected to be required. In other words, every dollar invested by the public is expected to lead to four dollars of subsequent private investment. This is a very attractive return on public investment and argues strongly, in pure economic terms, for further consideration of improvements to the Los Angeles River.

Perhaps of even greater value, but more difficult to quantify in economic terms, are the large number of jobs, both short-term construction-period jobs and longer-term jobs, which would result from these initiatives. These jobs have a “multiplier” effect in the economy, resulting in many other jobs to support the design, construction, and operations that would be created by River redevelopment.

From this investment and these jobs can flow a continuing stream of public revenues in the forms of income taxes from the development period, new jobs, and sales taxes from direct and indirect employment. These tax revenues are “found money,” in that they would not exist without investment in the River. Further benefiting the public would be substantial increases in property taxes collected near riverfront improvements. These are a new and continuing, and likely increasing, source of money for public use.

There is possibly an even greater public benefit, with economic implications on a scale perhaps larger than any of those described above. For 50 years the history of Los Angeles land use has involved centrifugal growth as new development moves farther and farther to the fringe, away from the original City. This sprawl phenomenon has often resulted in the deterioration of older, centrally-located neighborhoods. Los Angeles, in the eyes of the world, has become the “poster child” for suburban sprawl, and its inner-city neighborhoods and political and social fabrics have suffered as a result.

Improvements to the Los Angeles River offer an unprecedented opportunity to reverse this cycle of centrifugal growth. Public improvements to the River would bring private investment, residents, and visitors back to the center of the City, reversing the 50-year cycle of sprawl and supporting the “recentralization” of Los Angeles. This process can have tremendous positive impacts on land use, transportation, public facility use and other economic measures.

Bringing separate communities back together along the River would break down the historic isolation often felt by the City’s diverse and dispersed communities. People who know their neighbors tend to care about their neighbors, and they tend, as a result, to address their neighborhood concerns together. Social contact with adjoining communities can create a new “social contract” amongst different communities and through it, can improve the community landscape of Los Angeles forever.





# COMMUNITY PLANNING FRAMEWORK 8

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



The Taylor Yard Opportunity Area to the east of the River and Elysian Park. (2006)

## A COMMUNITY PLANNING FRAMEWORK FOR REVITALIZATION

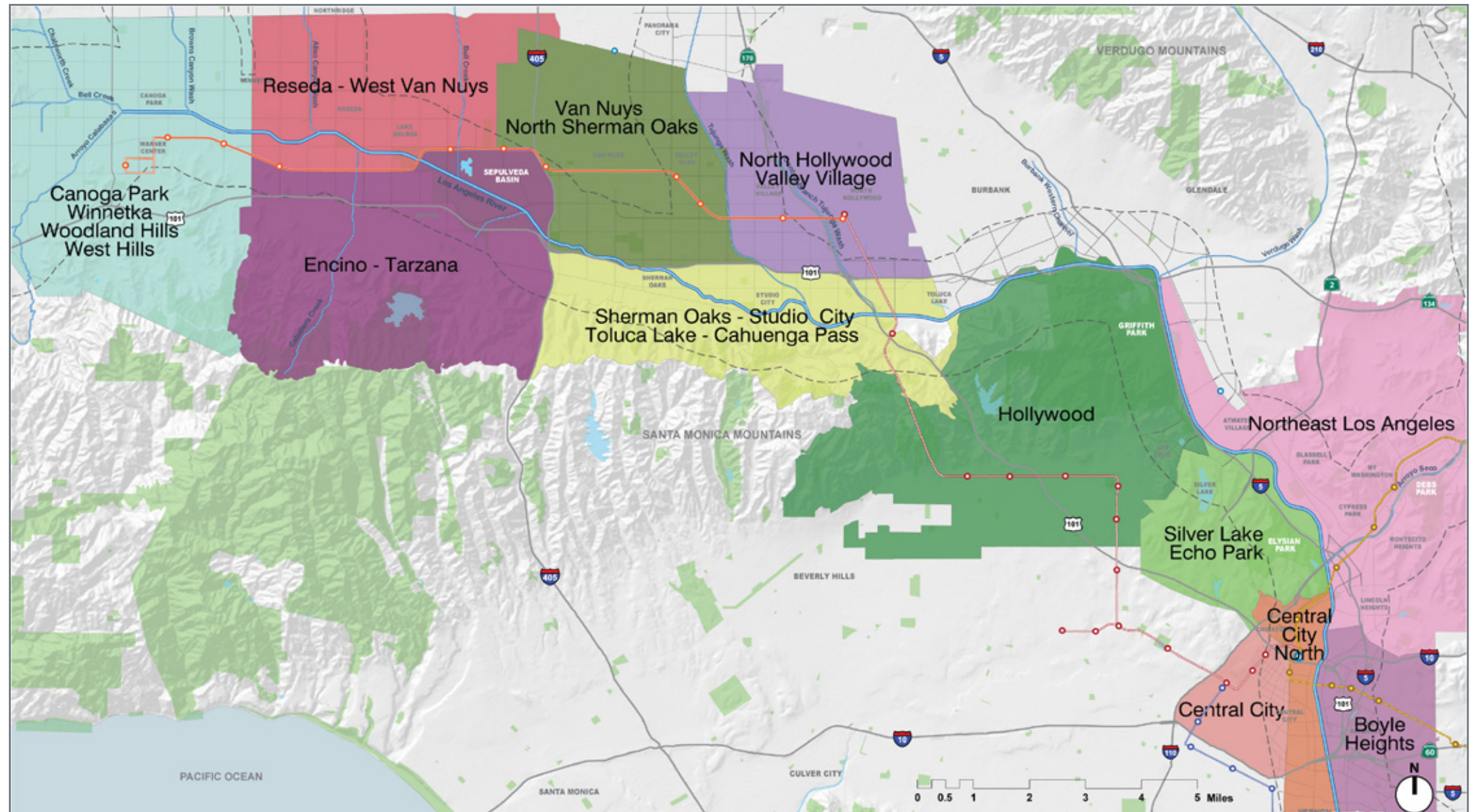
This chapter considers the community planning framework in which River revitalization will take place, and describes a proposed River Improvement Overlay (RIO).

Implementation of this Revitalization Plan will take place within the existing City planning and zoning context. It is anticipated that an important next step, following adoption of this Plan, will be to update existing Community Plans in areas that include the River, through an inclusive community involvement process. These Community Plans are the appropriate places to develop and document more refined proposals for River improvements. Zoning changes may also follow these Plan updates.

To complement the Community Plan process, a River Improvement Overlay (RIO) district would be created, with three important functions:

- Promote the sustainability of the Los Angeles River, its Greenway, the City of Los Angeles and the Region.
- Development should establish a positive interface with the River and create new open space opportunities within the River Greenway, thereby integrating the River into the daily life of the City.
- Blocks around the River should be developed to promote pedestrian, bicycle, and other nonmotorized transportation connections to the River and thereby extend the City to and across the River.

Community Plan Areas



# COMMUNITY PLANNING FRAMEWORK

## PLANNING AND ZONING CONTEXT

Today's efforts to revitalize the River seek to reverse decades of neglect and disregard. The River's role as the "soul" and "center" of the City disappeared over a century ago. In the intervening years the River was channelized, fenced off and largely ignored.

Residential, commercial, and industrial buildings that abutted the River now obscure it from view. Places where there used to be public access to the River are now gone—lost behind locked gates. As often occurs with places that are neglected, illegal activities began to occur which only furthered people's disregard for the River—contributing to a perception of the River as ugly and unsafe.

Revitalizing the Los Angeles River will bring a new level of connectivity, amenity and value to many neighborhoods along the River. In most existing neighborhoods the River has been a blighting influence on land use, and a barrier between neighborhoods. In many areas the River-side of the neighborhood is blighted with parking, storage and freight activities. Many residents who live near the River have expressed concerns for security along the River, as there is both real and perceived crime in some areas.

The economics of land use in Los Angeles have been highly skewed by the price of housing in recent years. As a result, property values have risen dramatically in most areas. In particular, there has been heavy pressure on some of the commercial and industrial areas to transform. Many areas of industry along the River and near downtown have been changing due to a combination of business improvements and land use conversions into residential uses. This trend has been a significant concern for two reasons: 1) land use pressure is increasing costs in a way that pushes long-term residents out of neighborhoods in favor of higher land-value uses (gentrification) and 2) land use pressure has raised land values and rents to levels that make it difficult or undesirable for existing industries to stay.

Revitalizing the River could potentially add to these pressures. In general, the commercial and industrial areas along the River are very low on amenities and are disconnected from their surroundings. This very isolation is part of why the areas have become industrial. With greening of the River and new connections being established,

these areas are likely to become even more attractive for conversion into mixed-use and residential areas.

As one of the next steps towards remedying the City's relationship with the River the Los Angeles River Revitalization Master Plan recommends that the Department of City Planning initiate updates of the twelve Community Plans that are within a one-half mile proximity to the River, initiate a Specific Plan for the Chinatown-Cornfields Opportunity Area and possibly for the Canoga Park Opportunity Area, implement a River Improvement Overlay (RIO) district, and develop new "Green Street" segments for the Arterial (Major Class Highway II and Secondary Highway) and Local (Neighborhood and Industrial) Streets in conjunction with the development of the City's General Plan Mobility Element that will be undertaken in 2007 to replace the Transportation Element.

This Plan will set policy and goals for the River, providing guidance into the mid-century. As a result of the Plan, the City will need to reconsider the zoning along the River and in the neighborhoods surrounding it. There is concern that the current zoning, in some places, does not support the goals and vision of River revitalization. As a pivotal component of the revitalization process, it is important that zoning promotes new development that embraces the River and encourages economic development activities in appropriate places.

The steps to modify current zoning involve a lengthy legal and community participation process. The City has several tools that can be used to change and/or modify a zone. A developer or property owner can request that a zone be changed for a specific property. Unfortunately, this individual and "piecemeal" process can result in uses being placed next to each other that are not compatible and that do not support the community's vision. There are other planning tools that are better suited to the River's goals. One is the Specific Plan and another is the Community Plan. The City's 35 Community Plans together comprise the Land Use Element of the City's General Plan. These must be considered in implementing the Revitalization Master Plan's proposals.

## GOALS FOR ZONING

- Revitalize the River
- Connect the neighborhoods to the River
- Connect the River to park, open space, trail, educational and cultural facilities
- Catalyze for urban reinvestment with River revitalization

# COMMUNITY PLAN UPDATES

## GENERAL PLANS

The Department of City Planning is charged with the responsibility of preparing, maintaining and implementing the General Plan for the development of the City. The General Plan consists of the Framework Element, which provides overall guidance for the future of the City, as well as various other Citywide elements, including the state-mandated elements, such as those for Transportation (to be replaced by the Mobility Element), Open Space, and Land Use (among others). The Land Use element defines a range of allowable land uses and intensities of uses as well as other matters relating to the use of land unique to each of the City's many communities.

The General Plan is implemented utilizing a variety of tools, mainly through the application of zoning regulations and the division of land into separate parcels. Traditional zoning designations, Specific Plans, overlay districts, special use permits, such as those for conditional uses, and a variety of other instruments all regulate the use of land. The zoning portion of the Municipal Code, Specific Plans and other regulatory tools establish development standards applicable to matters such as the heights of structures, setbacks, lot coverage, open space, parking, and design. Those seeking relief from the strict application of these regulations, apply to the Department of City Planning, which can grant relief from the requirements, when justified, through the use of variances or other similar tools tailored for specific purposes.

## COMMUNITY PLANS

Community involvement and input is a critical component of any project or process that proposes neighborhood-focused and/or city wide changes. For example, in the case of a private development project that seeks to amend the existing zoning code, neighbors are notified and invited to comment and attend a public hearing prior to a decision being made.

In the case of a Community Plan update, the City has developed a formal process for including public participation. This same process would be used for the creation of a new Specific Plan, or Community Design Overlay District (See page 8-7, which discusses the River Improvement Overlay [RIO]). These processes would include a review of all existing pertinent documents as well as conversations with stakeholders to identify key issues and opportunities. The City's planners conduct public workshops to solicit direct input on the draft document. An open house and public hearing provide

additional opportunities for the community to provide formal comments on plans before they are approved and adopted.

Community Plans are updated approximately once every ten years but there are often circumstances which require that they be amended in the interim. This amendment may be triggered by the community, Council office, Planning Department, and/or Mayor. An amendment might include a zone change, a new street designation, or a new affordable housing requirement. In these circumstances, a similar public participation process would be used. City planners would gather information, listen to stakeholders, identify issues, hold public workshops, and conduct an open house with a public hearing.

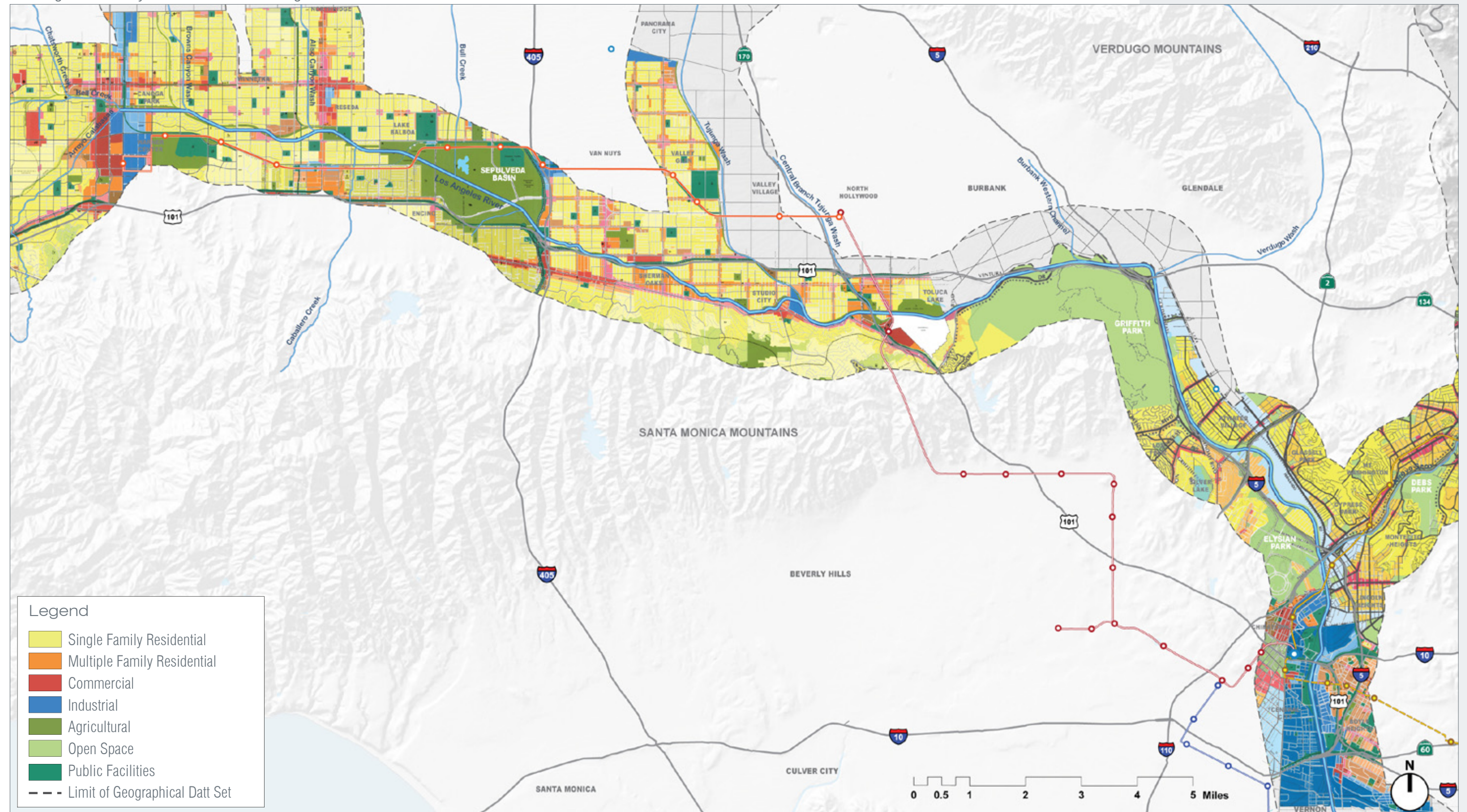
The public participation process in the case of a public project, such as a new park, school, or bridge, is similar to the examples described above. The involvement of the community and their local knowledge, in decisions that will affect them, is paramount to the success of any project.

## SPECIFIC PLANS

A Specific Plan is a regulatory land use tool designated by ordinance. It is a "mini" Community Plan of sorts, although there are many differences. A Community Plan encompasses many square miles and sometimes dozens of different neighborhoods, but a Specific Plan is usually much smaller and is usually written for a specific neighborhood or area. The Specific Plan, like the Community Plan, involves much public discussion. A Specific Plan can change zoning, write a new zone and impose additional design guidelines. The Specific Plan must be compatible with the Community it intersects and therefore a Community Plan is often amended concurrent with the adoption of the Specific Plan.

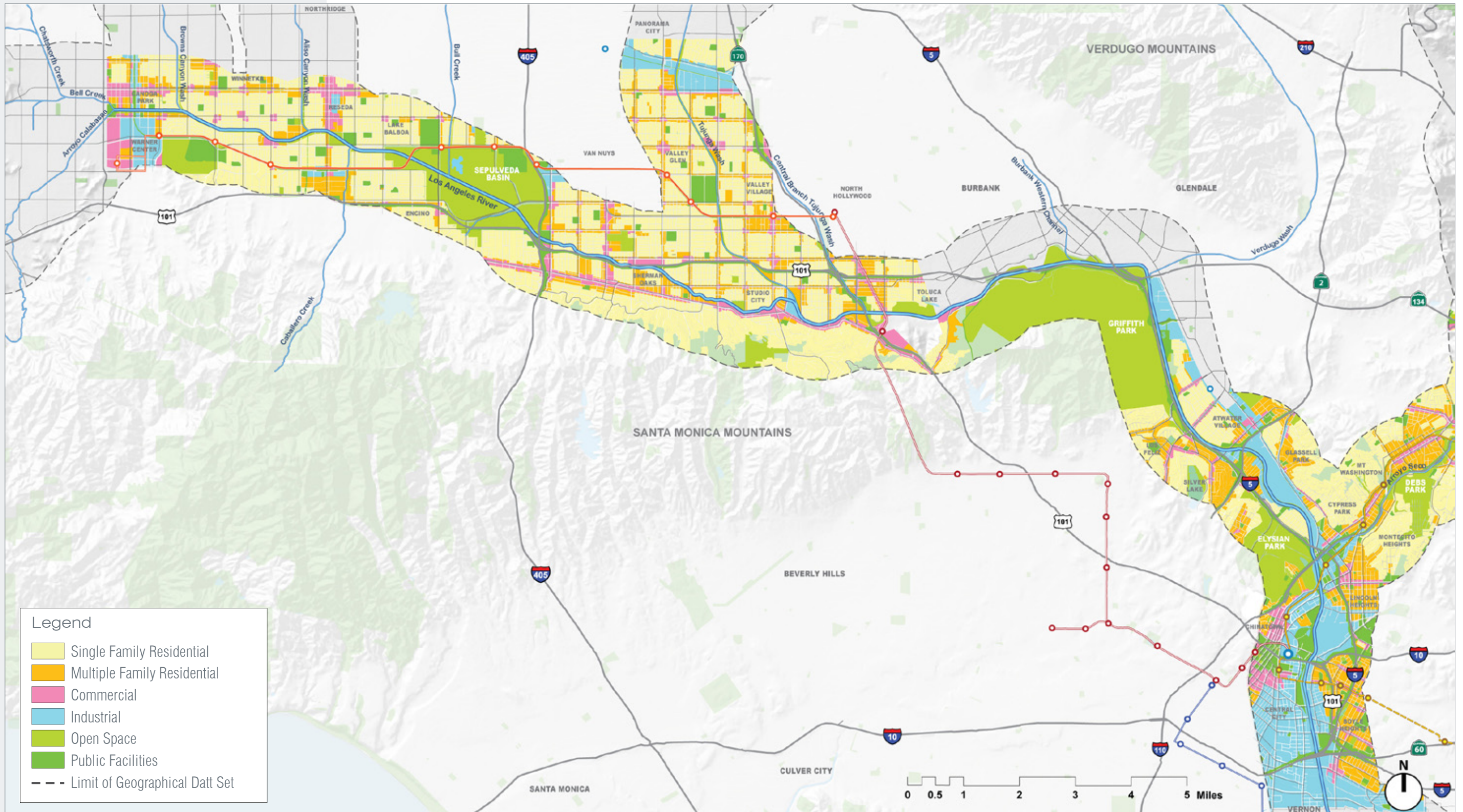
Because it will take many years for the City to update all of the Community Plans along the River, it may be beneficial to prioritize updates in certain places where there is immediate concern or interest to encourage economic development. This may be accomplished with a Specific Plan. The Revitalization Master Plan recommends that a Specific Plan be initiated, within six months after the Plan's adoption, for the Chinatown-Cornfields Opportunity Area. The Specific Plan may take up to two years to complete.

Existing Community Plan - Land Use Designation



Plan information provided by the City of Los Angeles Department of City Planning

Existing Zoning - Land Use Designation



Plan information provided by the City of Los Angeles Department of City Planning

## ZONING RECOMMENDATIONS - THE RIVER IMPROVEMENT OVERLAY (RIO)

Many of the Plan's goals can be accomplished quickly, without changing the zoning (land use, building heights, densities, or parking requirements). Through the many community workshops that have been held over the past 18 months, participants have stressed the importance that new River developments adopt changes in their design approach, such as building orientation, parking location, landscape design, and stormwater mitigation. As a result of these conversations, the Plan recommends that the Department of City Planning follow the Plan's adoption with the creation of a River Improvement Overlay (RIO) district. The RIO is a Community Design Overlay District which would ensure that development near the River provides for the realization of the goals of the Plan.

The RIO's boundary will be determined with input from the community—it is expected that the boundary would be widened or narrowed in different areas depending upon expressed public sentiments. It is further recommended that the RIO establish an initial design review procedure whereby the Department of City Planning's River Unit would determine if a project substantially complies with the standards and guidelines set forth in the RIO.

The standards and guidelines of the RIO would be written to meet three goals that reflect the overall philosophy and vision of the Plan. Each of these goals is supported by objectives that further reinforce the Plan.

Goal 1: Promote the sustainability of the Los Angeles River, its Greenway, the City of Los Angeles and the Region.

### Objectives:

- Encourage sustainable design approaches for building within the RIO.
- Encourage landscaping and landscape maintenance practices that conserve water to the greatest extent possible.
- Encourage natural drainage functions: allow water to percolate underground to replenish aquifers, filter out suspended solids, remove pollutants and slow down flows through vegetation, where appropriate.
- Design to minimize environmental impacts on air and water quality and to protect scarce resources.
- Contribute to a sustainable means of living for families of diverse income levels.
- Increase public open space.



Native planting already used in a pocket park along the Los Angeles River, on the south-side of Valley Heart Drive, east of Kenter St. (2006)



Native planting in the recently completed Lashbrook Park on the Rio Hondo. (2006)

Goal 2: Development should establish a positive interface with the River and create new open space opportunities within the River Greenway, thereby integrating the River into the daily life of the City.

*Objectives:*

- Provide public connections between the River Greenway and adjacent properties.
- Provide and enhance public connections to the River Greenway from neighboring streets.
- Enhance and protect views of the City, River, mountains and other scenic opportunities from and through new development thereby expanding the River's reach into the City.
- Create River Greenway-adjacent open spaces that enhance the natural qualities and open space character of the River.
- Provide views into and out of the buildings, courtyards, passages, and entries to allow pedestrians, bicyclists and other users to enjoy a level of safety and security consistent with the well-accepted "eyes on the street" philosophy.
- Provide adequate site lighting to ensure a safe and enjoyable nighttime recreational environment for the public, while minimizing local light pollution.
- Create a sense of the human scale in design elements.
- Add visual interest by providing rich and interesting façades, including variation in height, massing, rhythm, and/or texture.
- Protect and enhance the aesthetic characteristics of the improved River Greenway.
- Provide signage that communicates wayfinding information to users of the River Greenway.
- Provide a balance of shade and shadow on the River Greenway to enhance public enjoyment.

Goal 3: Blocks around the River should be developed to promote pedestrian, bicycle, and other nonmotorized transportation connections to the River and thereby extend the City to and across the River.

*Objectives:*

- Provide public connections between streets and front doors.
- Provide and enhance public connections to the River Greenway from streets.
- Prevent automobile-pedestrian and other intermodal conflicts.
- Maintain continuity of sidewalks.
- Maintain continuity of street walls on commercial corridors.
- Enhance and protect views of the City, River, mountains and other scenic opportunities from and through new development thereby expanding the River's reach into the City.
- Provide views into and out of the buildings, courtyards, passages, and entries to allow pedestrians, bicyclists and other users to enjoy a level of safety and security consistent with the well-accepted "eyes on the street" philosophy.
- Provide adequate site lighting to ensure a safe and enjoyable nighttime environment for the public, while minimizing local light pollution.
- Create a sense of human scale in design elements.
- Add visual interest by providing a rich and interesting façade, including variation in height, massing, rhythm, and/or texture.
- Provide signage that communicates wayfinding information to users within the RIO area.
- Provide a balance of shade and shadow to enhance public enjoyment of streets.

## GREEN STREET STANDARDS

Finally, the Plan recommends that the Departments of City Planning, Street Services, Engineering, and Transportation develop Green Street standards for the pedestrian segments of the Major Highways (Class II), Secondary Highways and Local Streets (neighborhood and industrial), concurrent with its 2007 update of the Transportation Element that will be renamed the Mobility Element. The purpose of this Element is to present a guide for the future development of a citywide transportation system, which provides for the efficient movement of people and goods. The updated Mobility Element will place emphasis on the importance of developing a multimodal transportation infrastructure that accommodates the needs of pedestrians, bicyclists, other nonmotorized transportation users, passenger vehicles, and freight carriers. This holistic approach to transportation is consistent with this Plan's promotion of Green Streets. The Green Street standards can then be applied to the appropriate River-adjacent streets.



A proposed Green Street near the Taylor Yard Opportunity Area provides safe access between the River and the Rio de Los Angeles State Park.



A proposed Green Street in the Canoga Park Opportunity Area connects a local middle school to the Los Angeles River.



# RIVER MANAGEMENT 9

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



The Chinatown/Cornfields Opportunity Area along the Los Angeles River, with Downtown in the background. (2006)

## A MANAGEMENT STRUCTURE FOR A REVITALIZED RIVER

This chapter describes a three-tiered structure for managing a revitalized Los Angeles River. Because of the multiple entities with jurisdiction over various aspects of the River, the management structure must be comprehensive yet flexible enough to allow these entities to work in collaboration, and enable these agencies to proceed independently when necessary. The River management structure includes three elements:

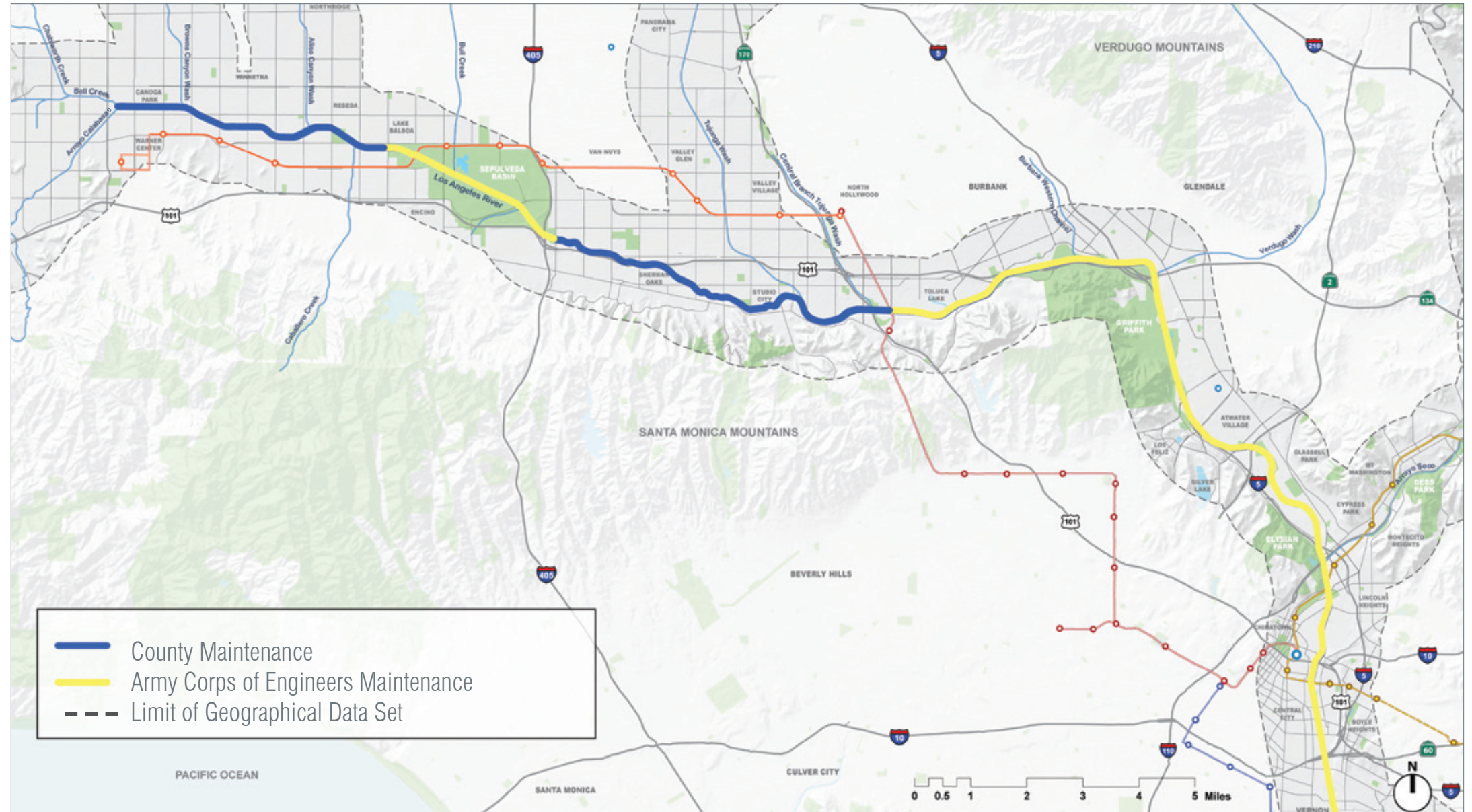
1. The Los Angeles River Authority, a Joint Powers Authority (JPA) that would include the City, Los Angeles County, and through a Memorandum of Understanding, the U.S. Army Corps of Engineers. The JPA would serve as the principal entity with authority and responsibility for:

- River reconstruction
- Right-of-way management and maintenance
- Public liability
- Permitting

2. The Los Angeles River Revitalization Corporation, a not-for-profit entity charged with directing public and private financing for River-related and neighborhood revitalization projects.

3. The Los Angeles River Foundation, a not-for-profit body established by private individuals to further environmental, educational, social, and sustainability issues for the River and related communities.

Major Maintenance Responsibilities



# LOS ANGELES RIVER MANAGEMENT AREAS

The Los Angeles River Corridor includes two areas with distinct management implications: 1) the River channel and 2) the River Corridor.

## THE RIVER CHANNEL

The River channel includes the River proper and its associated concrete lining, maintenance access paths, landscaping, fencing and bridge piers. In simplified terms, the River channel area is governed by three agencies, with the following jurisdictional authorities:

- **United States Army Corps of Engineers (Corps)**  
Governs flood protection regulations and standards; water releases from the dams; maintenance of channel sections under Federal ownership
- **Los Angeles County Department of Public Works (County)**  
Governs maintenance of channel sections under County ownership; most stormdrain outfalls; permits for channel modifications
- **Los Angeles City (City)**  
Governs some stormdrain outfalls; water releases from treatment plants; use of the water within the channel

### River Right-Of-Way Maintenance

Generally, the Los Angeles River is maintained by either the Corps or the County. This differs from many public works flood projects that are federally-built and fully transferred to the local municipalities for operation and maintenance. This is because of a shift in the U.S. Congress's language between (1) the original authorization for the project in 1936 ("Corps builds the system and the County maintains it"), (2) subsequent authorization in 1938 ("Corps builds the system and maintains it"), and (3) authorization in 1941 ("Corps builds the system and the County maintains it"). (U.S. Army Corps of Engineers, 1975) Because of this, the reaches along the Los Angeles River are

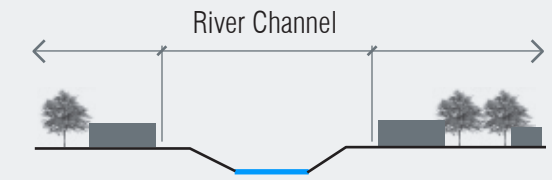
maintained according to when they were built. Specifically, the following maintenance responsibilities exist, as shown on the map of "Major Maintenance Responsibilities" on the preceding page.

- Owensmouth Avenue to upstream of the Sepulveda Basin: County
- Sepulveda Basin: Corps of Engineers
- Downstream of Sepulveda Basin to Lankershim Boulevard: County
- Lankershim Boulevard to Washington Boulevard: Corps of Engineers

Maintenance accomplished by either the Corps or County is primarily required to ensure serviceability of the structures during times of flood. These activities include clearance of debris, weeds, or vegetation growth; repair of damage caused by erosion, storm runoff, or other forces; and repair of concrete cracking, chipping, or breaking. Further, the responsibility includes rodent control; subdrain maintenance and restoration; flap gate maintenance; inlet and outlet structures maintenance; repair of fencing; maintenance of berms and access roadways, bike paths, and landscaping; and ensuring that approach and egress paths are clear of obstructions and debris. The County performs graffiti removal and eviction of homeless encampments.

### River Channel Modifications

No improvements or modifications may pass over, under, or through the walls of the River channel or levees, nor shall any excavation or construction be permitted within the limits of the project's rights-of-way, without the prior determination that such improvements or modifications will not adversely affect the functioning of the channel and/or associated facilities. Improvements or modifications that may be desirable and permissible need to go through a permit application process, for which the County is the first point-of-contact. Even for those reaches that are federally-maintained, applications for permits are submitted to the County, and then the County requests comments from the Corps. County-initiated work—for example as would be necessary for construction



The River Channel

## THE RIVER CHANNEL

- U. S. Army Corps of Engineers - Governs flood protection regulations and standards
- Los Angeles County - Governs maintenance of channel sections under County ownership and permits for modifications
- City of Los Angeles - Governs water releases into the channel and water use

of storm drain outfalls—are also submitted to the Corps for review. The only exception to this is that the Corps issues permits or leases for work within the Sepulveda Basin. The Plan proposes a new management structure that would simplify these procedures.

### River Ownership

Jurisdiction over operation, maintenance, and modifications of the Los Angeles River extends to the limits of the rights-of-way, whether they are owned in fee title or held by easement. These limits include the channel itself, access roads, and associated facilities (for example, pump stations), and are typically fenced off with appropriate signage. The outer slopes of levees are also included in the limits of the rights-of-way.

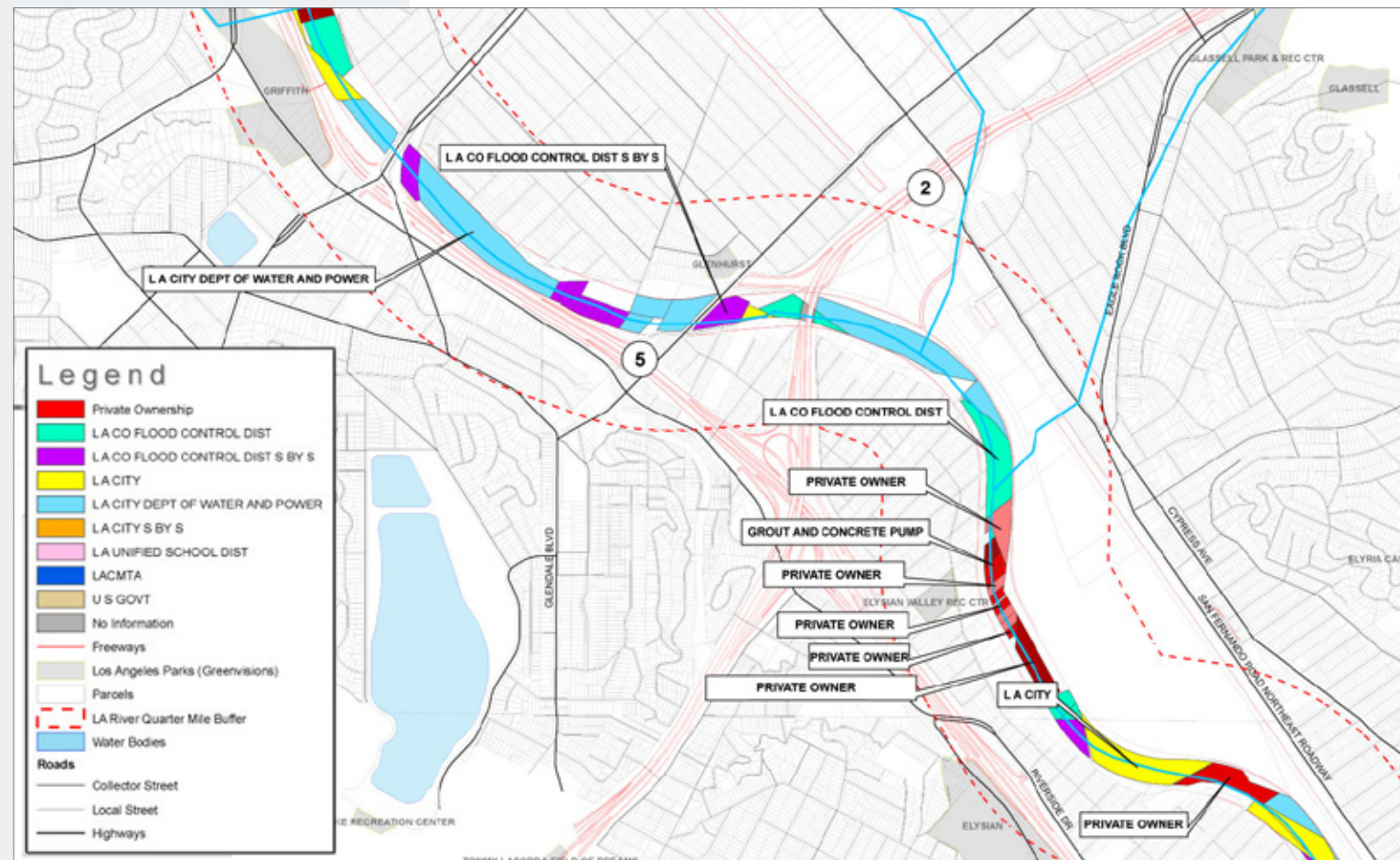
Maps indicate that a variety of public and private entities own the land within the channel right-of-way. This includes public ownership by the City, County, and the Federal government, as well as private ownership, including single individuals and businesses such as Forest Lawn Mortuary, the Radford Studio Center, and the Lakeside Golf Club of Hollywood.

## THE RIVER CORRIDOR

Moving outward from the River right-of-way, the area includes adjoining private property within neighborhoods, as well as public roads, bridges, and landscaping. This area is governed by the full range of City of Los Angeles agencies, and is regulated by zoning, municipal ordinance, and Department of City Planning standards. The following ten City agencies, at a minimum, play a direct role in the development of infrastructure and the regulation of private development. Each of these agencies are directed by policies that may need refinement to support collaborative implementation of the Plan:

- Community Redevelopment Agency
- Department of City Planning
- Department of Building and Safety
- Department of Public Works
  - Bureau of Engineering, Bureau of Sanitation, Bureau of Street Lighting, Bureau of Street Services
- Department of Recreation and Parks
- Department of Transportation
- Department of Water and Power

The ability of these agencies to influence change within the River Corridor and adjacent communities is significantly different than in the River channel, because of the number of agencies involved and their differing statutory and regulatory requirements.



Land ownership within the River Channel

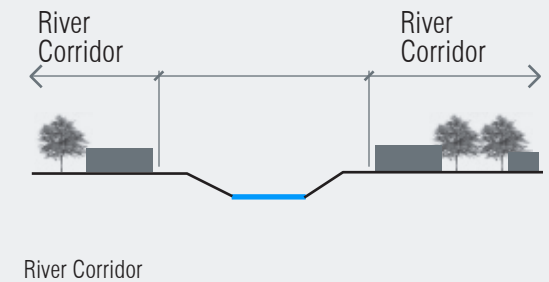
## TOWARD A COMPREHENSIVE RIVER MANAGEMENT SYSTEM

Several forms of river management case studies were reviewed to determine which might be applied to implement the Revitalization Master Plan; these include: State conservancies, private conservancies, joint power authorities, legislative districts, taxing districts and others. Through interviews, archival research, and numerous other consultations, the revitalization efforts of other cities were evaluated, to understand and define the range of options and opportunities available for Los Angeles.

The Plan is focused on the revitalization of the Los Angeles River as well as on the revitalization of adjacent neighborhoods. It seeks to find an appropriate balance between the needs of the River and the needs of communities. For example, reconstruction of the River to enhance its “green” characteristics, improve water quality, maintain flood protection, and provide public access, requires the cooperation and participation of the City, County and the Corps of Engineers. Revitalization of neighborhoods requires community planning and participation, infrastructure development, rezoning and economic development. Further, each of these activities will take place in a phased approach over time.

The appropriate River management structure for the Plan must be suitable to allow both elements - River and community - to proceed in concert but also in parallel when independent focus becomes necessary. As funds become available for River reconstruction, they will need to be focused efficiently on capital projects and River management pursuant to the Plan; as funds become available to update Community Plans, they will need to be expended efficiently to support the Community Plan amendment process and subsequent Specific Plans consistent with the Plan and other community objectives; and as funds become available for public infrastructure or economic development, they will need to be focused efficiently on projects that further the local Community Plans, Specific Plans, zoning, design standards and departmental policies for infrastructure.

Review of precedents from other communities suggests that there are no examples of any singular River management entity or structure that can effectively deliver implementation of the diversity of needs and activities required for the Plan. Therefore, a multiple entity approach to River management and implementation must be developed that will allow for phased implementation of the parts while focusing on convergence of the whole around the Plan.



### THE RIVER CORRIDOR

This area includes adjoining neighborhoods, roads, bridges, and landscaping. It is governed by the full range of City of Los Angeles agencies. While the River is controlled by three agencies through ownership or easements, most of the land beyond the River is in private ownership and is regulated by zoning, ordinance and departmental standards. Therefore, the ability of the agencies that govern the River Corridor to make change is significantly different than the ability of the River channel agencies to make change.

# GOALS FOR LOS ANGELES RIVER MANAGEMENT

## RIVER MANAGEMENT OBJECTIVES

- Effective Implementation
- Focused on the Plan
- Viable Over Time
- Financially Self-Sustaining
- Agile
- Achievable and Accountable

The following goals are a subset of those established by the Los Angeles City Council Ad Hoc Committee on the Los Angeles River:

### Revitalize the River.

- Direct improvements within the River right-of-way and on adjacent properties to improve the function and health of the River for water quality, environmental quality, wildlife habitat, flood protection and people.

### Connect neighborhoods to the River.

- Increase public access to the River with increased public safety along and within the River; interconnect neighborhoods and commercial streets in multiple locations with Local Green Streets, activated commercial Green Streets, and walkways.

### Connect the River to park, open space, trail, educational and cultural facilities.

- Develop the River as the spine that connects neighborhood community facilities through a regional trail network.

### Catalyze urban reinvestment.

- Increase the value of the River as an amenity within and near neighborhoods; stimulate improvements in neighborhood stability and quality through River revitalization; catalyze reinvestment in private sector properties as a result of the benefits and connectivity created by River revitalization; and recognize the River as a new “front” to neighborhoods that is a benefit to all.

## OBJECTIVES FOR RIVER MANAGEMENT ENTITIES FOR THE LOS ANGELES RIVER

The following objectives flow directly from the goals established by the Ad Hoc River Committee, and help to guide recommendations for a management structure for the River channel and River Corridor. They also reflect a review of River revitalization precedents in other communities across the country.

### Effective Implementation

- Independent enough to pursue activities effectively
- Sufficient authority and trust to be successful
- Able to review and revise boundaries as conditions change
- Able to own and build River amenities
- Able to manage public spaces, parks, open space, trails, and similar facilities
- Able to educate, advocate and lobby
- Able to develop proposals, plans and documents to implement projects
- Able to establish standards and guidelines and review private development

### Focused on the Plan

- Able to develop specialized staff
- Able to engage the public and agencies

### Viable Over Time

- Able to bridge changes in political leadership

### Financially Self-Sustaining

- Able to own assets
- Able to develop revenue-funding programs
- Able to transfer funds from program to program
- Able to build short and long-term partnerships
- Attractive funding partner

### Agile

- Able to move quickly in response to opportunities or changed conditions

### Achievable and Accountable

- Elected officials, agencies and the public must support establishment
- Entity must balance authority with other agencies
- Able and/or required to seek the advice and participation of the public
- Must have periodic reporting to a higher authority

## RECOMMENDED RIVER MANAGEMENT FOR THE LOS ANGELES RIVER

The agencies that own, manage and control the water, water quality, flood protection and related issues are different than those that control private development, land use, and other infrastructure. When creating one unified set of objectives for the Los Angeles River and the community under the Ad Hoc Committee's goals, the objectives mix issues between the River and community. In examining river management strategies in other locations across the country, a precedent was not found that combines all of the above objectives into one singular entity. Most of the entities reviewed in case studies are much more narrowly focused. For example, no entity with singular authority for both River reconstruction and economic development has been identified.

Most large-scale, public revitalization efforts include multiple entities to govern related but disparate sets of issues. For example, this Plan includes three major objectives for River revitalization: River reconstruction and management, economic development, and community development. Each of these activities is very different in character, expertise required, regulatory context, and funding potential. For this reason, a multi-tiered approach is recommended.

The establishment of a new governing entity inevitably raises questions regarding the transfer or delegation of authority from existing agencies, to the new entity. The establishment of an entirely new entity with new powers at the expense of existing agencies is relatively rare, especially in cities of a large size and where complex resources like the River are involved. For this reason, every river management entity reviewed was established and customized to fit the local purposes, agency and policy context. Further, most successful examples do not delegate or transfer broad powers to a new entity except when a new benefit is created. The agencies that participate in the establishment and oversight of these new entities generally delegate sufficient breadth and depth of authority to allow the new entity to succeed on the specific project for which they were created.

### THREE-TIERED RIVER MANAGEMENT STRUCTURE

The revitalization of the Los Angeles River is not a narrowly-focused project. The reconstruction of the River itself might be narrowly-focused; however, the modifications to private property, private economic development, infrastructure, land use controls and other policies are far more complex and long-term than other similarly large-scale endeavors (such as the Alameda Corridor project or Grand Avenue project). To deal with this complexity, a three-tiered, holistic structure to manage all of the functions required for long-term Plan implementation is recommended.

- **The Los Angeles River Authority**  
This entity would be the governmental component of the management structure.
- **The Los Angeles River Revitalization Corporation**  
This entity would be the entrepreneurial component of the management structure.
- **The Los Angeles River Foundation:**  
This entity would be the philanthropic component of the management structure.

All management bodies would conduct their operations in a clear and open process, with meaningful stakeholder involvement, including outreach to underserved communities near proposed projects.



### THREE-TIERED RIVER MANAGEMENT STRUCTURE

- The Los Angeles River Authority
- The Los Angeles River Revitalization Corporation
- The Los Angeles River Foundation

The channel falls under the Los Angeles River Authority, whereas the rail and its adjoining uses would fall under the purview of the Los Angeles River Revitalization Corporation. (2006)

# LOS ANGELES RIVER AUTHORITY



The confluence of the Los Angeles River and the Arroyo Seco represents a complex interplay of organizations and agencies that would be involved in the development of the River management structure. (2006)

## LOS ANGELES RIVER AUTHORITY POWERS AND RESPONSIBILITIES

- River Reconstruction
- Right-of-Way Management and Maintenance
- Public Liability

### Recommendation

Establish a Joint Powers Authority (JPA) between the City and County with the Corps participating through a Memorandum of Understanding (MOU). Assign key staff from City and County agencies into one JPA that is focused on implementation of the Plan and the County’s 1996 Los Angeles River Master Plan, with responsibility to also participate in and further the objectives of the City’s Integrated Resources Plan and the County’s Integrated Regional Water Management Plan. In general, the current responsibilities of the City and County that intersect with the Master Plan would be delegated to the JPA. Two local examples of JPA’s include the Grand Avenue Authority and the Alameda Corridor Authority.

### Funding

The JPA would need operating funds allocated from the parent agencies commensurate to the staff required to implement the Plan.

The JPA would be the primary entity to seek State and Federal funds, in conjunction with support from the Corps, for major capital reconstruction of the River channel and associated improvements. The JPA would create phased projects, develop design documents and manage construction of improvements within its district.

### Powers and Responsibilities

The JPA would need staff that is capable and experienced in the major areas of responsibility, and would require the collaboration of other City and County agencies to provide guidance on various activities. The JPA would be the primary entity with authority and responsibility for these key activities.

### River Reconstruction

Responsible for phased project development, design, funding and implementation including activities such as: channel and bridge modifications; trail construction; and water quality improvements/monitoring that can be accommodated within the JPA district.

### Right-of-Way Management and Maintenance

Responsible for managing the use of the right-of-way and channel, including public uses such as trails and River access points, concrete and vegetation maintenance, low flow channel maintenance, habitat maintenance, and monitoring and policing of the right-of-way.

Note that several of these functions, although they may be within the authority of the JPA, may be delegated or assigned to other entities for implementation and monitoring, such as other City or County agencies, or nongovernmental groups who may participate, provide funds, or offer services in-kind or as supplements to JPA responsibilities. Ultimately, however, the responsibility and authority lies with the JPA to seek and manage any supplemental support. In particular, the JPA will need to coordinate with the Police Department, Fire Department and the Swift Water Rescue unit to establish and/or revise policies, responsibilities, and procedures regarding safety and enforcement within the River right-of-way to accommodate the additional public access that is proposed in this Plan.

There are ongoing activities that are working toward increased coordination between entities that maintain or manage the River, such as a monthly working group that has been established by Council District 13 to explore improved coordination on River management and maintenance.

*Public Liability*

The JPA needs to accept, with the full faith and credit of the parent jurisdictions, the public liability of the River channel. Both City and County legal and risk management authorities must participate in the delegation and management of this responsibility.

*Permitting*

The JPA would need to become the agency that issues permits for all construction and special events activities within the right-of-way.

*Eminent Domain*

The JPA should not be given any authority in matters of eminent domain. Where the JPA has the need to acquire land for revitalization purposes, it should be required to work with the proper City and County agencies and standard protocols for land acquisition. In the event that eminent domain is the tool that is used, all the standard powers and procedures of the City and County would apply.

*Structure*

The JPA should be established with a Board of Directors appointed jointly by the parent jurisdictions, and should be required to conform to open meeting laws and all other State regulations. It would need to be able to adopt rules and regulations, establish committees and be required to maintain open records of all proceedings, while also conforming to all parent jurisdiction standards, such as prevailing wage rates, hiring goals, and similar stipulations.

*Establishment*

The JPA would be established by a “Joint Exercise of Powers Agreement” between the City and the County. A typical JPA Agreement would be built on an outline similar to this:

1. Definitions
2. General Provisions
3. Chairperson, Directors, Officers
4. Powers
5. Contributions, Accounts, Funds
6. Term
7. Property, Planning, Contracting
8. Miscellaneous
9. District Boundaries

At this time a suggested boundary for the JPA would be the River right-of-way within the City of Los Angeles, with the ability to expand this boundary over time.



Future River changes for the Canoga Park, River Glen, and Taylor Yard Opportunity Areas (above) would fall under the direction of the Los Angeles River Authority. (2006)

# LOS ANGELES RIVER REVITALIZATION CORPORATION



## LOS ANGELES RIVER REVITALIZATION CORPORATION POWERS AND RESPONSIBILITIES

- River-related improvements
- Economic development
- Public space management and maintenance
- Public liability
- Planning, design and implementation

As the City moves forward with the Studio City Opportunity Area, the Los Angeles River Revitalization Corporation could help manage the planning process. (2006)

### Recommendation

The Los Angeles River Revitalization Corporation would be a not-for-profit body established by City ordinance and State incorporation with a Board of Directors (appointed by elected officials). Charter powers and accountability reporting would be established in the enabling ordinance, with by-laws written and approved by the Board. Staff would be hired and fired by the Board. The Revitalization Corporation would be empowered to own and develop land and buildings, manage and operate facilities, and to use all legal funding tools and partnerships to implement the non-River objectives of the Plan.

The Corporation would be the primary entity to direct public and private financing for River-related and neighborhood revitalization projects. The Corporation would develop plans for specific economic development projects using special districts, and all other available tools, and would seek partnerships for projects with the Community Redevelopment Agency of Los Angeles, private developers and other not-for-profits, such as the Trust for Public Land, the Conservation Fund and other similar entities. Many other successful River revitalization efforts have benefited from corporations such as this due to their independence from government, and their ability to focus on catalyzing other benefits of River revitalization. The Centre City Development Corporation of San Diego, or the Memphis Riverfront Corporation are good examples of similar successful entities.

### Funding

The Corporation would require seed funding for operations for an extended period of time. A financial plan and business plan would need to be developed. As an example, the Anacostia Waterfront Corporation (AWC) in Washington, DC was started with \$5 million in operating capital, with the expectation that it would potentially become self-funding within a three-year period. Also, the Stapleton Development Corporation (SDC) in Denver, Colorado received a similar amount, and became self-sufficient within roughly four years.

A key aspect of the Corporation's ability to become self-funding would be the ownership of assets. The AWC and the Stapleton Corporation were both given control over significant land assets, and the authority to develop them for public purposes, for economic development, and for profits, which are now used to support each corporation. One approach to the proposed Revitalization Corporation would be to review existing City assets that are within the general River Corridor and to convey either title, or control to the Corporation as a way to begin developing an asset base. For example, a City storage yard near the River could be given to the Corporation with the responsibility to assist the City agency with relocation and redevelopment of the site.

### Powers and Responsibilities

The Corporation would need an executive director and staff capable and experienced in the major areas of responsibility. These would need to be experienced, energized and committed individuals who have an entrepreneurial spirit combined with a civic commitment to advocate for implementation of the Plan.

#### *River-Related Improvements*

Improvements would include acquisition, planning, design and implementation of lands for parks, trails, open spaces and habitats, such as off-channel sites and connections that most effectively leverage River improvements for community benefit.

#### *Economic Development*

Potential activities would be acquisition, planning, applications for rezoning, design, private development partnerships and implementation of private redevelopment/reinvestment efforts in community revitalization. The assistance and participation of the Corporation, as a public purpose entity, would also focus on achieving broader community goals in partner development projects, including job creation and retention, contractor hiring goals (including local hiring), affordable housing, the equitable distribution of benefits, and sustainability initiatives

*Public Space Management and Maintenance*

The Corporation would be responsible for managing public uses of lands owned or developed by the Corporation, such as trails and River access points, parks, recreational and cultural facilities, open spaces, and habitats, and for monitoring and policing property.

Note that several of these functions, while within the authority of the Corporation, may be delegated or assigned to other entities for implementation and monitoring, such as to other City or County agencies, or non-governmental groups who may participate, provide funds, or offer services in-kind or as supplements to Corporation responsibilities. Ultimately, however, the responsibility and authority lies with the Corporation to seek and manage any supplemental support.

Over time, part of the Corporation's efforts may include the intent to ground lease property, or transfer Corporation open space and parklands to the City Department of Recreation and Parks; therefore a close and ongoing relationship between the Corporation and the Department would be critical. In other cities the addition of new parks and open spaces is a desirable but financially challenging idea for existing agencies. The Corporation would need to exercise leadership in planning and seeking funding support for the acquisition, development and long-term management of new lands that may come into public ownership in the future.

*Public Liability*

The Corporation should be established so as to incur no unusual public liabilities beyond that of any private property owner, with insurance products used for protection of the Corporation and the public.

*Planning, Design and Implementation*

The Corporation should be established to allow it to become an advocate and participant, in conjunction with the Planning Department, in the development of neighborhood and Specific Plans. While the Planning Department will continue to lead the preparation of Community Plan amendments, their efforts can be supplemented by the efforts of the Corporation in developing studies, public outreach, technical analyses and specific proposals for new parks, public spaces, economic development and similar civic and private development initiatives within any given area.

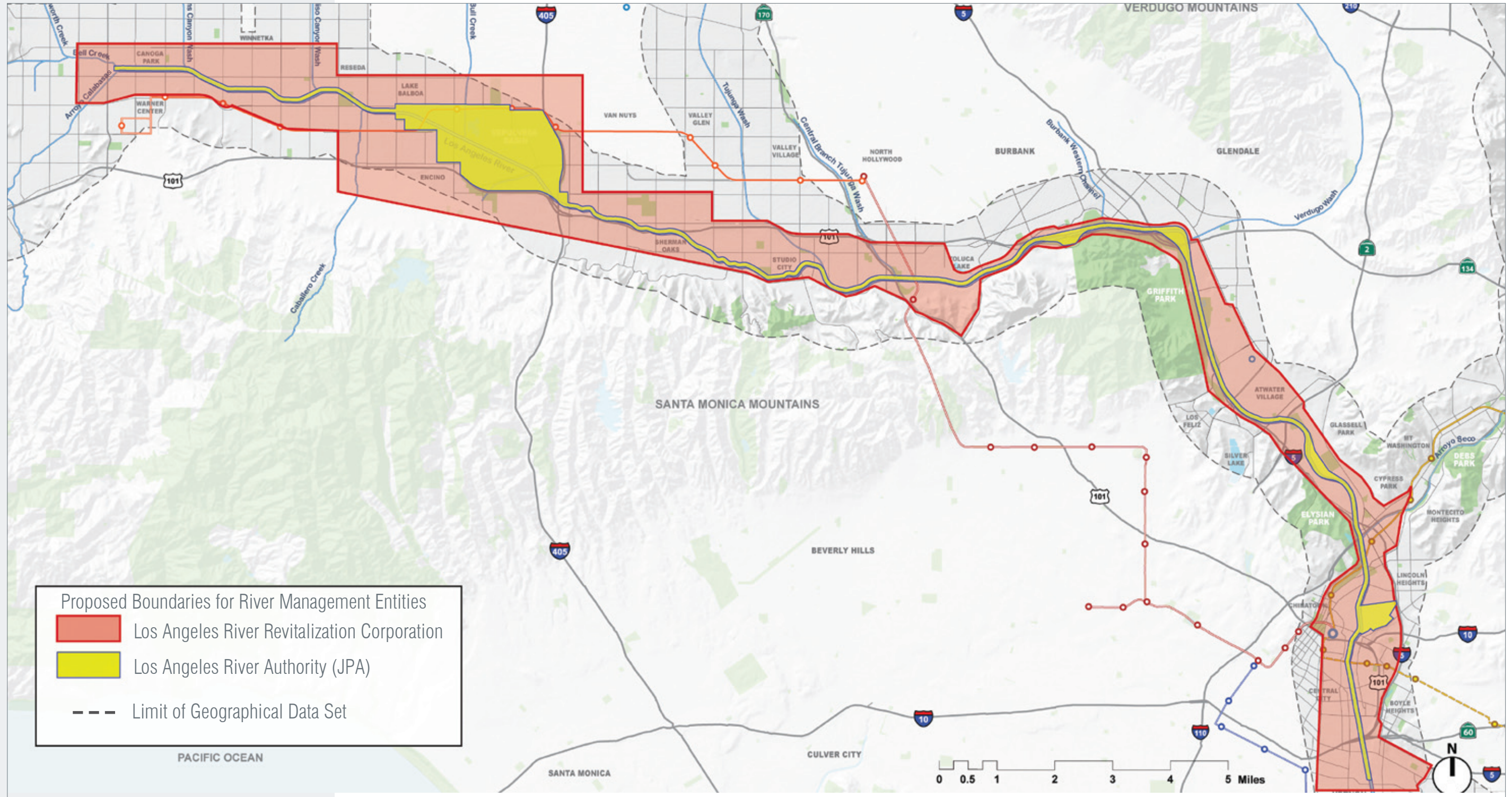
A notable peer case is the Centre City Development Corporation (CCDC) in San Diego, California. The CCDC acts as a contract agent for the city to perform elements of planning for downtown revitalization, advocates and studies the development of Specific Plans and zoning review, and provides reviews of private projects as quasi-support staff for the City Planning Department. All actual approvals of plans, re-zoning, projects and public financing remain the authority and responsibility of the city, requiring CCDC staff to make applications to the city, and process their work through the normal San Diego Planning Commission, City Council and Redevelopment Authority processes. This arrangement allows for the CCDC staff to be focused on implementation of the Downtown Plan (which CCDC recently updated at their initiative and expense) without the distractions of other projects and areas of the City.

This approach, of allowing the Corporation to perform supplemental planning and review services on behalf of the City by contract, may be useful for implementation of design review and design standards that are being proposed as a component of the Plan. The Corporation may also supplement public processes and community participation for projects, the development of project plans, additional design guidelines and standards, and other such services.



Future open space and community reinvestment for the Cornfields/Chinatown Area, Downtown Industrial Area and Sears/Crown Coach Area (above) would fall under the direction of the Los Angeles River Revitalization Corporation. (2006)

Proposed boundaries for River management entities



### *Eminent Domain*

The Revitalization Corporation would not have any powers of eminent domain. It should be the focus and style of the organization to use entrepreneurial means to acquire land and develop projects. If in some cases the Corporation finds that eminent domain is essential to implementation, it will have to make the case to the community and to the City Council, who would retain all rights and responsibilities associated with eminent domain. This is an important element of structuring the Corporation to be a community development partner as opposed to a threat.

### Structure

The Corporation would be established with a Board of Directors appointed jointly by the City's elected officials, and would not be required to conform to open meeting laws; however, all successful corporations of this type have a clear and effective public participation and open business policy. For example, the Stapleton Development Corporation has a Board appointed by the Mayor, with an additional Community Advisory Board (CAB) also appointed by the Mayor. The Corporation Board runs the business of the Corporation and directs staff, while the CAB holds monthly meetings reviewing the business of the Corporation, Corporation projects, and acts as a sounding board and venue for discussing other community concerns. This innovative structure has proven to be very effective at building a knowledgeable bridge of informed constituents to assist the Corporation in achieving its goals, while being responsive to the community.

Like any corporation, the Board of the proposed Revitalization Corporation should be able to adopt bylaws, establish committees and should be required to maintain open records of all proceedings except those currently exempted such as litigation, property acquisition and employee records. The use of public funds also requires the Corporation to conform to all City standards such as prevailing wage rates, minority and women owned hiring goals, and similar policies. It is prudent that corporations of this type adopt good faith policies and monitoring procedures to ensure that the public interest and benefits are maintained.

### Establishment

The Corporation would be established by ordinance and articles of incorporation and would be registered as a 501 (c) (3) with the Internal Revenue Service. This classification of a not-for-profit business would give the Corporation the right to enter into any type of business activity, but would require that financial gains achieved be reinvested into the activities of the Corporation rather than taken as profit. In addition, this classification would enable the Corporation to receive grants and donations, that are tax exempt, from individuals and businesses.

### District Boundaries

Boundaries of the River Revitalization Corporation could include public and private lands extending outward from the River right-of-way to approximately one half-mile on both sides of the River; however, boundaries should be drawn to follow roads, with adjoining properties on both sides of any boundary road included. A boundary for the Corporation may not be critical and would not be required; however, establishing a reasonable boundary may help the Corporation and the community maintain its focus on River related activities and benefits.

In recent years there have been many efforts by local communities, nonprofit organizations and others to build small projects along the River. Plantings, trail connections, gateways, artworks and small park spaces have all been built. Each of these efforts requires a great deal of work to obtain permits, funds, and especially operating and maintenance funding. Elements such as signs, trash containers and trail surfaces require ongoing maintenance, policing, and replacement.

These projects often lack reliable funding sources for continued operation and maintenance. The proposed river management structure is intended to create an opportunity to address these issues. All three of the management entities might play roles in facilitating and funding these activities.

# LOS ANGELES RIVER FOUNDATION



## LOS ANGELES RIVER FOUNDATION POWERS AND RESPONSIBILITIES

A not-for-profit body established by private individuals to further environmental, educational, cultural, social justice and sustainability issues for the River and related communities.

Environmental stewardship and youth education as pictured above would be just some of the responsibilities of the Los Angeles River Foundation. (2006)

### Recommendation

The Foundation would be a not-for-profit body established by private individuals to further environmental, educational, cultural, social justice, and sustainability issues for the River and related communities. It would be created, operated and funded entirely by private sources for public benefit. The Foundation would seek grants, donations and partnerships to build an asset base and operating capital to support programs (not capital projects) to further the goals of the Foundation and the Plan. The Foundation would develop programs that are directly responsive to community needs and opportunities that are a consequence of River revitalization. Through this focus, the Foundation would create a consistent effort and credibility to attract funding partnerships from allied programmatic and endowment-based foundations. For example, the Foundation might partner with another foundation to develop entrepreneurial capacity in certain minority communities while partnering with another foundation to pursue environmental education programs to supplement the Corporation's economic development activities.

### Funding

The Foundation would require seed funding from the founders. Long-term funding sources would include donations and partnerships. The Foundation may also create a close partnership with the Revitalization Corporation to provide funding and programmatic alignment.

### Powers and Responsibilities

Powers and responsibilities would be determined by the Foundation Board, with no formal relationship to the Corporation, the JPA, or the City.

### Structure/Establishment

The Foundation would be established as a corporation and registered as a 501 (c) (3) with the IRS. It would have a Board of Directors appointed by the founders and as further defined in the articles of incorporation and bylaws. This classification as a not-for-profit business would give the Foundation the right to enter into any type of business activity, but require that financial gains achieved be reinvested into the activities of the Foundation rather than taken as profit. In addition, this classification would enable the Foundation to receive grants and donations, that are tax exempt, from individuals, businesses, and governments.

### Boundaries

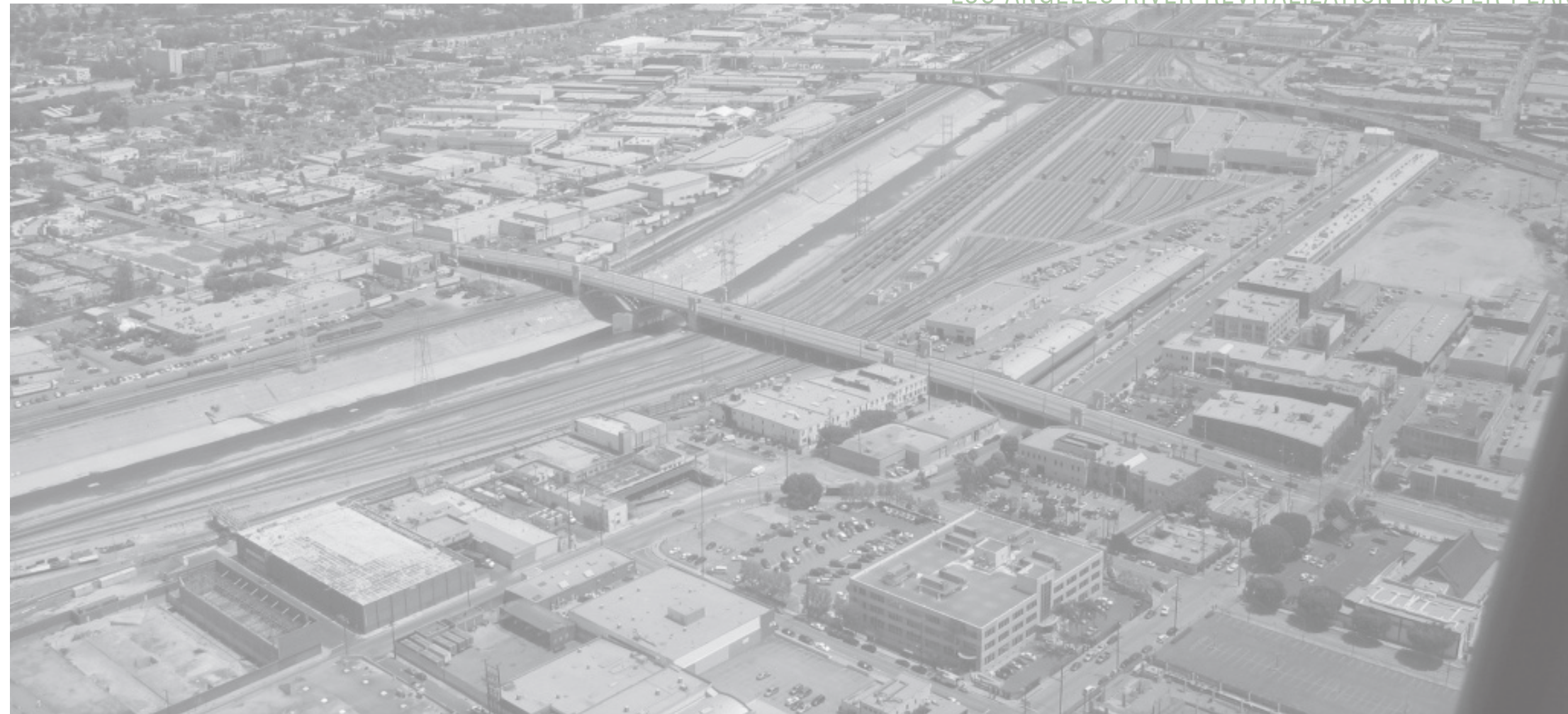
A boundary would not be necessary for the Foundation. One of the lessons learned from similar successful foundations is that their activities involve a wide diversity of relationships and partnerships with other entities, and at times the Foundation may find it beneficial to participate with another entity in activities that are not geographically related to the River, but which still provide support to the Foundation and its mission to capture the benefits of River revitalization.

Entity	Description	Jurisdiction & Authority	Activities	Funding
<p><b>LOS ANGELES RIVER AUTHORITY</b></p>	<p>Joint Powers Authority (with the Army Corps by MOU); the JPA would house key staff of the City and the County to oversee implementation of the LARRMP in concert with the City’s IRP, the County’s 1996 Master Plan and 2006/7 IRWMP; would include an appointed Board of Directors (approximately 9 members)</p>	<p><u>Jurisdiction:</u> The River right-of-way along 32-mile River corridor within the City of Los Angeles</p> <p><u>Authority:</u> River reconstruction; Water quality; Right-of-way maintenance and enhancement; Public liability; Permitting</p>	<p>Creates phased projects, develops design documents and manages construction of improvements within its jurisdiction; including, but not limited to: concrete removal, channel terraces, water quality treatment facilities, outfall reconstruction, River bottom improvements, trails within the right-of-way, bridge design and construction as well as adaptations to existing bridges, development of River access points, flood protection improvements, and public safety improvements</p>	<p>Operating funds from the parent agencies; possibility for Corps funding of maintenance by contract</p>
<p><b>LOS ANGELES RIVER REVITALIZATION CORPORATION</b></p>	<p>A non-profit body established by City ordinance and State incorporation with a Board of Directors appointed by elected officials to oversee staff, which would include an Executive Director and others distinguished by expertise in the major areas of responsibility</p>	<p><u>Jurisdiction:</u> Approximately ½ mile on either side of the 32-mile River corridor</p> <p><u>Authority:</u> Charter powers and accountability reporting to be established in the enabling ordinance, empowered to own and develop assets including land and structures, to manage and operate facilities, and to use all legal funding tools and partnerships to implement the non-River objectives of the LARRMP</p>	<p>The Corporation would be the primary entity to manage public and private financing for River-related and neighborhood revitalization projects; including, but not limited to: development of economic development plans and projects using special districts and other available tools, partnership building with CRA, public and private developers, including conservancies and land trusts. The main functions of the Corporation would be <i>River-related improvements</i> (acquisition of lands for parks, trails, open spaces, and habitats), <i>economic development</i> (acquisition, planning, applications for rezoning, design, private development partnerships and implementation of private redevelopment and reinvestment efforts in community revitalization), and <i>public space management and maintenance</i> (lands owned or developed by the Corporation, such as trails and river access points, parks, and open spaces), including monitoring and policing properties. The Corporation would assume control of assets and exercise the authority to develop them for public purposes. Profits would be used to support the ongoing activities of the three River entities.</p>	<p>Seed funding required for initial operations with intent that Corporation would become financially self-sustaining over time</p>
<p><b>LOS ANGELES RIVER FOUNDATION</b></p>	<p>A 501(c)(3) non-profit body with a Board of Directors established, operated and funded by private sources for public benefit.</p>	<p><u>Jurisdiction:</u> No specific geographic boundary; relevant programs and projects would be determined by the Board</p> <p><u>Authority:</u> The Foundation Board would be appointed by the founders, bound by Articles of Incorporation and Bylaws, and would have no formal relationship to the LA River Authority (JPA), LA River Revitalization Corporation, or the City.</p>	<p>The Foundation would seek grants, donations, and partnerships to build an asset base and operating capital to support programs (not capital projects) to further the goals of the Foundation and the LARRMP. The foundation would focus on issues to develop programs that are directly responsive to community needs and opportunities that are a consequence of River revitalization.</p>	<p>Private sources for seed funding including, donations, grants, and partnerships to maintain the Foundation for long-term functioning</p>



# IMPLEMENTATION 10

LOS ANGELES RIVER REVITALIZATION MASTER PLAN



The Los Angeles River through Downtown with the 1st Street Bridge in the foreground. (2006)



## INTERIM RIVER MANAGEMENT ACTIONS

Implementing the Los Angeles River Revitalization Master Plan would require the ongoing engagement and support of the many people and groups that have collaborated in its creation. The River management structure that is proposed in the Plan is designed to create a short- and long-term strategy that is fundamental to moving this proposed agenda forward. The proposed structure is designed to address River revitalization in a holistic manner, focusing on governmental management through the JPA, entrepreneurial stewardship through the Revitalization Corporation, and philanthropic leadership through the River Foundation.

The new management structure would require substantial work from all of the jurisdictions that would have a stake in the proposed changes to the River. Thus, each of the three proposed management entities would require the participation of all affected agencies and officials. The first implementation steps, then, are to convene the right group of individuals to begin the work of establishing each of the entities.

It should be noted that funds have not been presently allocated within the City budget to create these new River management entities; new appropriations would be needed to support their formation and activities.

### LOS ANGELES RIVER PROJECT OFFICE

The Revitalization Master Plan proposes establishment of a River Project Office within the Bureau of Engineering, which would act as project manager. Other City departments, working through the River Project Office, are expected to take lead responsibility for implementation of components of the Plan. For instance, the Community Redevelopment Agency (CRA) would spearhead development of the Revitalization Corporation, and the Department of City Planning would oversee Community Plan updates and implementation of the River Improvement Overlay (RIO). Other participants might include the Bureau of Sanitation, City Attorney's Office, the Chief Legislative Analyst, City Administrative Officer, the Environmental Affairs Department, the Department of Recreation and Parks, the Housing Department, the Department of Transportation, and the Department of Water and Power.

### Coordination of Long-Term Planning in the Watershed

The full revitalization of the Los Angeles River will require ongoing coordination of the efforts of many agencies, jurisdictions, interest groups and individuals. The three-tiered River management recommendation to achieve this coordination is intended to guide the effective implementation of the Plan's goals for the River Corridor and nearby communities. There will remain an important need for a more comprehensive, region-wide coordination of River planning, including tributary, water quality, and certain land-use planning and policy-making that will establish long-term improvements that move toward an integrated watershed approach. As the Plan's proposed projects are readied for implementation, it will become more and more important that, over time, one regional entity emerge to facilitate collaboration between implementing jurisdictions, funding partners, and regulatory agencies.

The Los Angeles River Special Projects Office, would be tasked with implementing the LARRMP goals. In working with the County of Los Angeles, the U.S. Army Corps of Engineers, the Los Angeles Community Redevelopment Agency, and others in developing the appropriate management structures and implementing recommended projects, the Special Projects Office would act as a facilitator to bring the various implementing jurisdictions together to finalize an effective management structure and the agreements needed to establish proper authorities and relationships among the involved parties, and to act as a case manager in efficiently implementing those projects. The Special Projects Office could continue in place to facilitate the ongoing long-term coordination of River and watershed projects within the City of Los Angeles. As the new River management entities become established, it is intended that most of the technical functions of the Special Projects Office would shift to the new entities, leaving the opportunity for the Special Projects Office to be reduced in staff and its responsibility redirected to focus on the overarching coordination of River projects.

## IMPLEMENTING THE REVITALIZATION MASTER PLAN

This chapter describes next steps in implementing the Revitalization Master Plan.

Establishing the new River management structure would be necessary to move forward with the Plan. The chapter provides action steps necessary to form the three entities that would comprise the management structure.

This chapter also identifies a list of potential projects, including many involving partnerships with the Army Corps of Engineers and other funding partners, that could begin to move the revitalization effort forward.

A rough estimate of Opportunity Area costs is provided for informative purposes. These would need to be further refined as projects are identified to move forward. The chapter also includes a matrix of potential funding sources, organized by type of improvements.

The River Project Office would assist the JPA Working Group in facilitation of the establishment of the JPA. River Project Office activities are expected to encompass the following:

- Provide program and policy context for the Office, alignment of Departmental and Bureau policies to support revitalization of the River;
- Develop a work plan for short- and long-term activities to address at least the following issues:
  - a. Determine phased implementation of the Plan.
  - b. Identify funding partners and sources.
  - c. Initiate detailed planning and design studies of early phase River projects.
  - d. Identify and interface with all other City, County, State or Federal projects or plans that may impact implementation of the Plan. For example, park, bridge, bikeway, utility and similar projects near the River need to be identified and coordinated to support Plan objectives.
  - e. Establish communications with all River-related agencies, groups and special interests.
  - f. Support the Working Group for JPA formation.
  - g. Work closely with the U.S. Army Corps of Engineers on the Los Angeles River Feasibility Study.
  - h. Manage pilot projects.

### Participation of Local Communities in Revitalization

Gentrification is a growing concern in the City of Los Angeles. From new developments adjacent to transit stations, to the downtown revival, the City is experiencing many real estate changes, both positive and negative. Even with careful planning, gentrification can be a potential consequence of the River's revitalization. As public funds are invested in River improvements, and as both public and private funds are invested in neighborhood revitalization, there is a high probability that increasing prices and land values could cause the displacement of people who currently rent, own, or work at

properties near the River. This consequence is a serious concern that was raised many times in the Plan's public outreach process and in the responses to the Draft LARRMP.

The context of the River's revitalization is critical since there is already a well-documented gentrification pressure taking place in the greater Los Angeles area, largely due to the continuing increase in housing prices. As the region continues to grow outward, the desirability of existing urban neighborhoods has increased. This has resulted in ongoing increases of housing and land prices that have significantly outpaced inflation and personal earnings. As a result, a gap has been created that makes it difficult for renters to keep pace with rising rents, for homeowners to resist increasing offers to sell, for first-time homebuyers to afford local neighborhoods, and for existing businesses to remain viable with increasing commercial rents and land prices. Over time, these pressures have caused a gradual displacement of people from these neighborhoods to more distant locations which serves to increase commute distances, put greater pressure on family and business budgets, disrupt community ties, and increase energy consumption—with damaging environmental consequences as witnessed through urban sprawl.

Other cities have experienced these pressures and have developed tools to address gentrification; however none has done so at such a massive regional scale. Southern California is a unique case since it is one of the world's most populous regions and one of the fastest-growing in the United States, and it faces infrastructure pressures on its air, road, ocean, and rail transportation that have obvious and immediate global as well as local, regional and national implications. Such outward pressures directly impact the livability of Angelenos and continually drive home, business, land, and infrastructure prices upward. The Los Angeles River, because it flows through 32-miles of established urban development—including residential-, commercial-, increasingly-scarce industrial-, and heavily-used rail-dedicated land uses—is affected by these trends. Therefore, there

is a need for this region to consider and act upon the gentrification consequences of major public investments, such as River revitalization, through coordinated policies, and innovative and responsible regulatory and financial strategies. This region-wide effort should not be ignored in its implementation. More recently, the City has begun to promote affordable housing through new Community Plans, adaptive reuse building policy, and a renewed emphasis on green and livable neighborhoods. While the River Corridor is only one small portion of the total urban area of Los Angeles and the region, the City and its communities, through the LARRMP's implementation, can begin to identify locally-appropriate approaches to address gentrification.

It is important to remember that the influx of people into the City brings many benefits as well as challenges. Growth fuels a need for increased capacities and services, but it also provides increased resources to apply to these demands. New people and new businesses can have a positive revitalizing effect on communities at the same time that they contribute to price pressures. New jobs, housing, services, parks and amenities are important aspects of revitalization. Increases in the mix of land uses in a community can increase the number and diversity of total jobs, although the type of jobs may change. For example, those industrial areas that are largely warehousing businesses tend to have a low-density of low-paying jobs, while mixed-use areas that include offices, retail, services and housing and more densely developed manufacturing, research and processing areas will tend to have a higher density of total jobs, with a greater diversity of available jobs. Maintaining a diverse and well-balanced mix of land uses, then, can create more stable and sustainable communities, although it is important to assure that residents and workers who may be displaced are appropriately considered in the revitalization process.

One concept that has proven to be effective in other cities is to develop organizations and strategies that facilitate the participation of existing communities and employees in

revitalization. Most people enjoy economic development and growth if they participate positively and see that their lives, their families and their neighborhoods improve as a result. Many techniques exist to facilitate participation. First, opportunities must be known and available to people. Second, education, training and access to programs that increase the potential and capacity of people and businesses to grow must be available. Third, multiple economic tools must be available to open opportunities to everyone. Fourth, where appropriate, locally-targeted programs and opportunities should be considered.

The three-tiered River Management structure is designed to address these issues. Each has a role to play; the specific roles of each entity would be crafted as the Special Projects Office and its partner agencies develop work plans for each. The concepts below are suggested as ways to begin. These efforts would be supported by an ongoing process of public dialogue through existing Community Planning methods (as described on page 8-4), through the works of the City Council's Ad Hoc Committee on the Los Angeles River, through resident involvement on River management committees, and through yet-to-be-determined opportunities that may emerge as feasible. An example of the latter is a "River Council" comprised of members from all of the Neighborhood Councils and redevelopment advisory committees along the River that might meet monthly to discuss a variety of issues as they arise.

## LOS ANGELES RIVER AUTHORITY

### Joint Powers Authority (JPA) Working Group

The main purpose of establishing the JPA Working Group is to review the viability of, and facilitate the creation of, the JPA. The Group would itself determine the actions necessary for the JPA's formation, as well as the respective authorities and responsibilities of the overall body and its constituent members.

Agenda items for the Working Group could include issues related to maintenance, liability, channel reconstruction, water quality, permitting, and access as formalized in the following actions:

- Development of the Joint Powers Agreement and an Memorandum of Understanding (MOU) to bind the partners;
- Determination of jurisdictional boundaries;
- Determination of the organizational mission and drafting of its founding documents;
- Determination of its short- versus long-term work program by committing to key projects, including the Plan's proposed Opportunity Areas and River channel modifications.

### Working Group Members

The proposed Working Group structure would consist of five members:

- Two elected officials from the City of Los Angeles:  
 Mayor of Los Angeles or designee  
 City Council President would designate the Chair of the Ad Hoc Committee on the Los Angeles River
- Two elected officials from the County of Los Angeles Board of Supervisors
- One representative of a State agency

In addition, and since the Federal government is disallowed from entering into a JPA agreement, the U.S. Army Corps of Engineers would be represented on both the Working Group and the ultimate JPA Board as an ex-officio member as formalized in the above-referenced Memorandum of Understanding (MOU). Eventually, the JPA may be expanded to include other jurisdictions, such as downstream cities that also border the River.

### Working Group Timeframe

The goal of the Working Group is to develop the JPA within one (1) year. The Working Group itself would sunset after the first year unless a renewal provision was invoked.

### Additional Responsibilities

The Joint Powers Authority (JPA) has a role to play in enhancing the participation of local communities, particularly minority communities, and existing businesses in the revitalization and management of the River itself. One of the underlying problems of large infrastructure projects is simply the total scale of the endeavor. Large projects generally require large, experienced organizations and businesses to implement them cost-effectively. Small local organizations and businesses do not generally have the resources, knowledge, or capacity to meet the needs of very large projects.

The creation of the JPA could directly address this problem. As part of the establishment of the JPA, the parties (City, County, and Corps) can agree in the Joint Powers Agreement to adopt specific objectives that would facilitate local benefits resulting from JPA activities, such as:

*Participation of small local contractors*

The JPA can define and allocate roles for small contractors and suppliers to compete for participation in numerous portions of construction and River management projects. Conventional large project construction is handled by very large contractors; in this case a role could be defined where there is a public purpose and benefit established by shifting construction management to focus on obtaining and managing the activities of numerous smaller, local entities. If the JPA can combine its efforts with the capacity-building activities of the River Foundation (described below), greater opportunities can be opened up to more local workers and companies.

*Partnering approaches to construction*

Conventional projects are delivered through low-bid contracts managed to meet schedules and budgets. This is perceived as delivering the best value to the public sector using public funds. If this conventional approach includes local participation, other, positive impacts can result. A partnering approach can be developed whereby the JPA can work with local businesses, labor organizations, workforce development entities and agencies to find ways to become partners, as opposed to adversaries, in delivering projects. This approach, of asking a larger pool of the project participants to help define cost-effective ways of delivering the project, can improve both local participation and the bottom line by delivering projects that reflect local sentiment.

*Partnering approaches to River management*

One issue that is always raised in discussions of the River is the safety of the public within the River channel, and the security of private properties and neighborhoods along its banks. These concerns are very real, as today the River is dangerous during high flows, and there are many examples of crime and other undesirable activities near and within the River right-of-way. Given the existing, limited resources available for maintaining River safety and neighborhood security, the response strategy has been to fence the River right-of-way. This has produced mixed results and, to some, has increased undesirable activities in and near the channel by curtailing regular surveillance.

The JPA, together with the Revitalization Corporation and other agencies, such as the Police and Fire Departments, could pursue ways to increase the funding of River safety and security but also to increase the participation of partner organizations in management and surveillance. There are numerous examples of local managing entities, such as the JPA, that have partnered with law enforcement, private foundations, schools, and others to enhance River management and surveillance through increased civic vigilance. And, there are numerous examples of local regulating authorities (such as the JPA) acting as oversight and coordinating entities to actual channel and green space management, maintenance, and surveillance services that are performed by local groups and jurisdictions, using a combination of regional and local funds. For instance, working with local schools, colleges, and law enforcement agencies, the River Foundation could fund a River Rangers program that could be developed to educate local youth about the River, its dangers, its possibilities, and its region-wide importance as a natural resource. This program would not only help ensure public safety in and near the River, but would also help provide important local skills to local youth, encourage pride and awareness in the River, and would link the works of the JPA with its partner entities (as described below).

## LOS ANGELES RIVER REVITALIZATION CORPORATION

The CRA would work through the River Project Office to define the structure, roles, responsibilities, authority, reporting, financing, and purposes of the Revitalization Corporation. This work would be actively coordinated with other agencies and potential partners to define the most appropriate mix of powers for the Revitalization Corporation that would maximize its effectiveness and its ability to complement the activities of existing organizations.

An agenda for the Corporation, including a work program, would be developed that would best interface with both the JPA and the River Foundation. Other activities that would be undertaken include:

- Determine the organizational mission of the Corporation and drafting of its founding documents;
- Determine jurisdictional boundaries for the Corporation;
- Determine the short- and long-term funding strategies for operation of the Corporation, including initial seed assets or lands that might be assigned to the Corporation;
- Identify potential leaders who may serve in appointed roles on the Corporation board or as senior staff.

The River Revitalization Corporation (RRC) would become an implementing entity for the acquisition, development, and management of the River's green space and recreational functions, certain economic and real estate development activities, and a facilitator of public participation and coordination in these activities. Working together with other Citywide efforts, the Corporation could establish specific objectives to address concerns of job creation and affordable housing. If the Corporation is established as recommended in this Plan, it can be required to report to the City Council's Ad Hoc Committee on the Los Angeles River—to demonstrate its activities and performance in striving to reach these goals. One of the values of the semi-independent nature of the Corporation is that it can find ways of achieving its objectives in a more agile and creative way than governmental agencies. For this reason, it is recommended that the Corporation be established with strong language indicating its objectives to increase

green spaces and recreational opportunities, to accomplish economic development and neighborhood revitalization, to create jobs, including local participation, and to create housing that is affordable to a wide range of people. It is not recommended that the Corporation be given specific targets to meet however—that should be the job of the Corporation itself, to define its goals, establish its methods and to find ways to exceed expectations—through a transparent process resting upon continuing community involvement.

Potential goals that the Corporation may wish to consider could be structured such as:

### Job Creation

**Goal:** Establish the existing number and profile of jobs in given project sub-area and set an objective to retain, expand and/or replace this number of jobs with a certain percentage more total jobs as a result of economic development activities.

**Goal:** Achieve a numeric goal specifying that a certain percentage of all new jobs be made available, with appropriate skill requirements, to existing local populations.

**Goal:** Work with social service providers, such as schools and the River Foundation, to develop job assistance and training opportunities to assist local populations in training that will make new jobs more accessible.

### Affordable Housing

**Goal:** Establish a numeric goal that a certain percentage of all new housing that is developed through funding, land contribution, or other partnerships involving the Corporation be set-aside and restricted to populations with demonstrated need. There are many examples of such programs across the country, and some have very elaborate classification systems that define the local need, income levels and qualification criteria for renters and buyers who seek to participate.

**Goal:** Establish a goal that a certain percentage of all new housing be designed and priced for ownership by people meeting a target Area Median Income (AMI) as defined by the Corporation. To make this program effective, other cities have found a benefit in allowing the Corporation to define AMI on a localized basis. When only one definition of AMI is allowed, it generally does not allow for the definition of affordable housing in rapidly escalating locations. For example, most downtown areas have exceptionally high land and construction costs. If housing prices for affordable housing are restricted to meet a criteria of 80% AMI, it can be impossible to construct affordable units economically. By allowing the AMI to be sectorized by sub-area of the City, the Corporation would have the ability to tailor its activities to better meet the needs of all areas with consideration of their different income profiles. (Note: This kind of strategy may restrict the availability of certain funding sources since many public sources require the use of the federally-established targets.)

### Education

A draft analysis could be initiated with the Los Angeles Unified School District, identifying challenges to improving the quality of education in neighborhoods that may be affected by River improvements.

### Transportation

In association with the Department of Transportation, a draft analysis of the challenges to improving access to transportation and transit services in neighborhoods that may be affected by River improvements could be undertaken.

Additional details concerning implementation of the Revitalization Corporation are presented in Chapter 9.

## LOS ANGELES RIVER FOUNDATION

The River Foundation would require the leadership of the Mayor, City Council, committed advocates, and private individuals who understand the need for the private sector to supplement the work of government in revitalizing the River and its neighborhoods.

There are two short-term tasks that would need to be accomplished. First, a group of individuals who might participate must be identified and engaged in the development of the Foundation, and second, the mission, structure, roles, responsibilities and financing of the Foundation must be developed. The goal would be to identify, in one year, a detailed outline of the Foundation and a work plan for its activities. It is expected that the Foundation would draw representation from existing business, community, and environmental nonprofit groups that have for years organized and raised funds for their respective missions.

The Foundation could address topics, such as the following, as funding becomes available:

#### *Environmental Stewardship and Education*

There are many entities that are concerned with stewardship and environmental education, including local providers and national funding partners. The River Foundation can act as a coordinator and clearinghouse to focus programs run by other providers (such as the Last Chance Program) and to create linkages and educational campaigns between local and national funding partners to put emphasis on these activities on and near the River, and as part of other River projects developed by the JPA or Corporation. As mentioned above in the case of the River Rangers program, the three River management entities could develop cross-cutting programs that would provide services in support of their various missions, in combination.

*Public Health and Fitness*

The very nature of the River Revitalization Master Plan provides a major opportunity to advance public health and fitness along the River. With at least 32 miles of connected trails, designed family walking “loops” and recommended connections to all possible trails, parks, and schools, the revitalized River network provides both a health benefit and a healthful transportation system. The Foundation, in partnership with other agencies and foundations that focus on public health issues and fitness, can call attention to the health problems within the Los Angeles community today, such as the inactivity of youth, the difficult access to various sports activities, the rise of obesity and diabetes, and the generally inactive lifestyle that is too easy to practice. The Foundation can create activities, develop recreational and health-based partnerships, and attract funding partners to programs that engage youth, teens and families into River-related recreation that will elevate the awareness of public health issues and increase opportunities for healthy living along the River and throughout the region.

*Sustainability*

The Foundation could be the primary entity that focuses on how social, economic and environmental sustainability programs could supplement or otherwise become part of the activities of the JPA and the Corporation.

*River Arts and Event Programming*

The Foundation could play a significant role in spearheading social, cultural, and artistic events that focus attention on the River and serve as potential fundraising vehicles. The foundation would work with the City’s Cultural Affairs Department and others to create a River Arts Program. The Foundation would work with the proposed JPA and RRC to develop agreements that would establish roles and responsibilities to manage art within the River right-of-way and regarding coordination of art activities on public lands and streets within the River Corridor.

# INTERIM PROJECT PHASING

## CRITERIA AND FRAMEWORK FOR PHASING DECISIONS

The recommendations contained within this Plan would translate into many specific project proposals over the next several years. To provide guidance in selecting projects for funding, and to assure that projects that are funded would achieve both short- and long-term benefits, the Plan recommends that a series of criteria be adopted through which potential candidate projects may be evaluated. Criteria include those below, and would be fine-tuned in the future according to the types and availability of funding programs. These criteria have been applied in the next section of the chapter to the proposals for greening and otherwise improving the River Corridor, but can be equally applied to components of the Opportunity Areas as the planning process evolves for those areas:

- **Geographic synergy with other projects currently in progress.** Because the Plan’s goals revolve around creating a continuous River system, projects that offer the opportunity to extend or complete those already in progress, or to provide geographic continuity within a reach, may offer more immediate benefits than projects that are geographically isolated.
- **Responsiveness to funding source objectives and evaluation criteria.** Projects funded through Proposition O or Proposition 50, for example, must address specific evaluation or performance criteria. Proposals that best meet those criteria may offer more opportunity to be funded than those that meet fewer criteria.
- **Responsiveness to restoration objectives established by federal partners, specifically, the Army Corps of Engineers.** To the degree that projects meet requirements for restoration of functional habitat, opportunities for funding partnerships may be possible.
- **Synergy with other related plans.** Master Plan recommendations have been designed to support and complement recommendations set forth in several related plans, including the IRP, the IRWMP, the County’s Los Angeles River Master Plan, and many watershed initiatives. To the extent that proposals demonstrate the ability to achieve the goals of multiple plans, they may offer more immediate benefits and help to leverage multiple funding resources.
- **Proposals meeting multiple objectives.** Proposals that simultaneously meet recreation, water quality and other objectives may offer more “return on investment” for the same dollar than proposals with a single objective.

- **Multiple funding partners.** Projects that can enlist support from multiple funding partners, for example, the State (through various propositions and bonds), the Federal government (Army Corps of Engineers, Environmental Protection Agency), and private partners may offer the potential to combine leveraged funding sources with multi-objective performance, and thereby increase the return on investment.
- **Supportive neighborhood organizations and advocacy groups.** Projects that have strong support within their communities may represent “quick wins” that can build visibility, momentum, and support for the overall River revitalization effort. They are also projects that may be “adopted”—and thus be maintained and patrolled—by neighborhood organizations.
- **Incremental improvement upon existing projects.** This criterion describes projects that are already on the “drawing board,” and which could help meet the goals of the Plan even if some modifications or added scope is necessary. Examples include (1) renovations to existing parks, where a water quality feature might be added, (2) street right-of-way improvements that could become Green Streets leading to the River with minor modifications, and (3) bikeways that could be augmented with bridge underpasses. Another logical tie-in is the Million Trees Initiative
- **Visibility.** Projects that are highly-visible offer great potential to excite people about the River and show them that the City’s commitment is real.
- **Private partner support.** Projects that involve the support of the private sector help to demonstrate that the commitment to revitalizing the River—and making a “greener” Los Angeles—is something that is expected to provide added value.
- **“Quick wins.”** These are projects that can move forward with relatively less effort and in a shorter-timeframe than more complicated projects because of conditions conducive to their implementation. This could occur, for example, if land, funding, and political will would become available for discrete projects or incremental components of projects.
- **Meet demonstrated needs.** Examples might include creating a pocket park in an area that is one of the most seriously park-deficient areas in the City, or implementing water quality treatment terraces in areas with significant concentrations of storm outfalls and in a severely-impacted River reach.
- **On City-owned land.** The project would not require purchase of private property or negotiation of an easement or access agreement.

This Revitalization Master Plan identifies more than two hundred potential projects, listed on the following pages. These projects offer opportunities to link to existing and planned development in the River Corridor - forging a coordinated and comprehensive strategy for revitalization. Each of these potential projects is identified on the River Corridor maps at the end of this chapter.

A wide range of project types are envisioned to assist in achieving the goals and objectives of the LARRMP. The projects, in most instances, are conceptual. In these cases, neither a specific location nor financial resources have been identified or secured. Community involvement will be a critical component of subsequent efforts (after LARRMP adoption) to prioritize and identify appropriate locations. The City will coordinate a community participation process for each of the proposed projects. The community’s involvement throughout the process—from project programming and design to the identification and acquisition of a site location—will be critical to each project’s success

# SPECIFIC PROPOSALS

Project Number	Potential Project (see Note 1, below)	Potential Project Categories*	Public or Private Land **	Land Acquisition Required? ***	Project Readiness ****	Total Project Cost (Range, in \$million) (see Note 4, below)		Could Potentially Proceed Prior to Completion of the US Army Corps Feasibility Study	Could Potentially Proceed as a Federal Demonstration Project (see Note 2, below)	City Council District	Neighborhood Council	County Supervisory District	State Assembly District	State Senate District	Federal Congressional District
1	Canoga Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	200	250			3	Canoga Park	3	40, 41	20	27, 30
2	Canoga Park High School Outdoor Classroom	EO, WQ	PUBLIC	b	f	0.5	1	X		3	Canoga Park	3	40	20	27
3	River Origin Park	BT, EO, HR, PR, WQ	PUBLIC	b	f	3	5	X	X	3	Canoga Park	3	40	20	30
4	Basset Street Riverside Street	BT, HR, SG, UI, WQ	PUBLIC	a	e	4	6	X		3	Canoga Park	3	40	20	27
5	Canoga Park Regional Gateway	PG	PUBLIC	a	e	1	2	X		3	Canoga Park	3	40, 41	20	27
6	Orange Line ROW from Vanowen to Sherman Way Greenway	BT, EO, HR, PR, PT, WQ	PUBLIC	b	f	4	6	X		3	Canoga Park	3	40	20	27
7	Orange Line Underpass	BT	PUBLIC	b	f	2	4	X		3	Canoga Park	3	40, 41	20, 23	27
8	Canoga Ave Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	4	6	X		3	Canoga Park	3	40, 41	20, 23	27
9	Canoga Avenue River Bridge	RB	PUBLIC	a	e	4	6	X		3	Canoga Park	3	40, 41	20	27
10	Variel Avenue Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	6	8	X		3	Canoga Park	3	40, 41	20	27, 30
11	Variel Avenue Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		3	Canoga Park	3	40	20	27
12	Variel Avenue Local Gateway	PG	PUBLIC	a	e	0.5	1	X		3	Canoga Park	3	40	20	27
13	Canoga Park River Greenway (Canoga to Vanalden)	BT, EO, HR, PR, WQ	PUBLIC	a, b	e, f	30	50		X	3	Canoga Park	3	40, 41	20	27
14	Acquisition of property between Canoga and De Soto, between the River and Vanowen	HR, PR, UI, WQ	Private	c	g	100	200	X		3	Canoga Park	3	40, 41	20, 23	27
15	Canoga Park River Park	BT, EO, HR, PR, WQ, WR	Mixed	a, b, c	e, f, g	15	20			3	Canoga Park	3	40, 41	20, 23	27, 30
16	Canoga Park Promenade	BT, EO, HR, PR, PT, WQ	Mixed	b, c	f, g	10	15			3	Canoga Park, Winnetka	3	40, 41	20	27
17	De Soto Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	8	12	X		3	Canoga Park, Winnetka	3	40	20	27
18	Acquisition of property between Oso and Vanowen, north side of the River	HR, PR, UI, WQ	Private	c	g	20	40	X		3	Winnetka	3	40	20	27
19	Winnetka Avenue Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	8	12	X		3	Winnetka, Woodland Hills- Warner Center	3	40	20, 23	27
20	Winnetka Avenue River Bridge	RB	PUBLIC	a	e	4	6	X		3	Winnetka, Woodland Hills- Warner Center	3	40	20, 23	27
21	Vanalden Avenue to Balboa Boulevard River Greenway	BT, EO, HR, PR, WQ	PUBLIC	b	f	30	50		X	3	Reseda, Woodland Hills- Warner Center, Encino, W. Van Nuys/Lake Balboa, Tarzana	3	40	20, 23	27
22	Acquisition of property between Corbin and the River	HR, PR, UI, WQ	Private	c	g	60	70	X		3	Woodland Hills- Warner Center	3	40	21, 23	27
23	Tampa Avenue and Victory Boulevard Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		3	Reseda	3	40	21, 23	27
24	Acquisition of property at Tampa and the River	HR, PR, UI, WQ	Private	c	g	200	250	X		3	Reseda, Tarzana	3	40	21	27
25	Vanalden Avenue Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	8	12	X		3	Reseda, Tarzana	3	40	21	27
26	Vanalden Avenue Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		3	Reseda	3	40	21	27
27	Vanalden Avenue Local Gateway	PG	PUBLIC	a	e	0.5	1	X		3	Reseda	3	40	21	27
28	Wilbur Avenue Primary Local Green Street (Sherman Way to Orange Line)	BT, SG, WQ	PUBLIC	a	e	4	6	X		3	Reseda	3	40	21	27
29	Aliso Creek Confluence Park	BT, EO, HR, PR, WQ, WR	Mixed	a, c	e, g	15	20	X		3	Reseda	3	40	20, 21	27
30	Reseda Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	PUBLIC	a, b, c	e, f, g	--	--			3	Reseda	3	40	20, 21	27
31	Amigo Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	6	8	X		3	Reseda	3	40	20, 21	27
32	Amigo Avenue Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		3	Reseda	3	40	20, 21	27
33	Amigo Street Local Gateway	PG	PUBLIC	a	e	0.5	1	X		3	Reseda	3	40	20, 21	27
34	Reseda Boulevard Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	12	15	X		3	Reseda, Tarzana	3	40	20, 21	27
35	Reseda Boulevard River Bridge	RB	PUBLIC	a	e	4	6	X		3	Reseda	3	40	20, 21	27
36	Reseda Park Greenway	BT, EO, HR, PR, WQ	PUBLIC	a, b	e, f	3	5		X	3	Reseda	3	40	20, 21	27
37	Reseda Park River Park Buffer	HR, WQ, WR	PUBLIC	a, b	e, f	2	4	X		3	Reseda	3	40	20, 21	27
38	Reseda Park Promenade	BT, EO, HR, PR, PT, WQ	PUBLIC	a	e	3	5	X		3	Reseda, Encino	3	40	20, 21	27
39	Reseda Park Regional Gateway	PG	PUBLIC	a	e	1	2	X		3	Reseda	3	40	20, 21	27
40	Reseda High School Outdoor Classroom	EO, WQ	PUBLIC	b	f	0.5	1	X		3	Reseda	3	40	20, 21	27
41	Etiwanda Avenue Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	4	6	X		3	Reseda	3	40	20, 21	27
42	Etiwanda Avenue Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		3	Reseda	3	40	21	27
43	Caballero Creek Non-Motorized Bridge	BT	PUBLIC	a	e	2	4	X		3	Tarzana	3	40	21	27
44	White Oak Avenue and Victory Boulevard Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		3, 12	Reseda, Encino, W. Van Nuys/Lake Balboa	3	40	21	27
45	Sepulveda Basin Agricultural Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	PUBLIC	b	f	--	--			12	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
46	Encino Velodrome Wetlands Park	BT, EO, HR, PR, WQ, WR	PUBLIC	b	f	50	70		X	12	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
47	Sepulveda Basin Sports Complex	PR, WQ	PUBLIC	b	f	5	7	X	X	12	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
48	Orange Line Bridge Non-Motorized Bridge	BT	PUBLIC	b	f	2	4	X		12	Encino	3	40	21	27
49	White Oak to Balboa Lake Habitat Restoration and Greenway; grouted rock removal	BT, EO, HR, PR, WQ	PUBLIC	b	f	15	20		X	6, 12	Encino	3	40	21	27
50	Sepulveda Basin Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	PUBLIC	b	f	--	--			6, 12	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
51	Sepulveda Basin Regional Gateway	PG	PUBLIC	a, b	e, f	2	3	X		5, 6, 12	Encino, W. Van Nuys/Lake Balboa	3	40, 41	21	27
52	Sepulveda Basin (Birmingham High School) Outdoor Classroom	EO, WQ	PUBLIC	b	f	0.5	1	X		6	Encino	3	40	21	27
53	Sepulveda Basin River Park Buffer	SG, WQ	PUBLIC	a, b	e, f	2	4	X		6	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
54	Sepulveda Basin Wetlands Park	BT, EO, HR, PR, WQ, WR	PUBLIC	b	f	35	45		X	6	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
55	Sepulveda Dam Bypass	BT	PUBLIC	b	f	10	15	X		6	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
56	Hjelte to Dam Wetlands Park	BT, EO, HR, PR, WQ, WR	PUBLIC	b	f	20	30		X	6	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
57	Sepulveda Basin Non-Motorized Bridge	BT	PUBLIC	b	f	2	4	X		6	Encino, W. Van Nuys/Lake Balboa	3	40	21	27
58	Sepulveda Spillway Park	BT, EO, HR, PR, WQ, WR	PUBLIC	b	f	50	70		X	6	Sherman Oaks	3	40	21	27
59	405 Overpass/Underpass	BT	PUBLIC	b	f	15	20	X		2	Encino, Sherman Oaks	3	40, 42	21	27
60	Sepulveda Boulevard Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	10	15	X		2	Sherman Oaks	3	42	21, 23	27

Project Number	Potential Project (see Note 1, below)	Potential Project Categories *	Public or Private Land **	Land Acquisition Required? ***	Project Readiness ****	Total Project Cost (Range, in \$million) (see Note 4, below)		Could Potentially Proceed Prior to Completion of the US Army Corps Feasibility Study	Could Potentially Proceed as a Federal Demonstration Project (see Note 2, below)	City Council District	Neighborhood Council	County Supervisory District	State Assembly District	State Senate District	Federal Congressional District
61	Sepulveda Boulevard River Bridge	RB	PUBLIC	a	e	4	6	X		2	Sherman Oaks	3	42	21, 23	27
62	Van Nuys Boulevard to Burbank Boulevard River Greenway	BT, EO, HR, PR, WQ	PUBLIC	b	f	30	50			2	W. Van Nuys/Lake Balboa, Sherman Oaks	3	42	21, 23	27
63	Castle Family Park	BT, EO, HR, PR, WQ	PUBLIC	b	f	20	40	X		2	Sherman Oaks	3	42	21, 23	27
64	Kester Avenue under 101 Freeway Portal	PG	PUBLIC	b	f	0.5	0.7	X		2	Sherman Oaks	3	42	23	27
65	Valleyheart Riverside Street (Sepulveda to Cedros - Northside)	BT, HR, SG, UI, WQ	PUBLIC	a	e	5	7	X		2	Sherman Oaks	3	42	21	27
66	Valleyheart Riverside Street (Sepulveda to Kester - Southside)	BT, HR, SG, UI, WQ	PUBLIC	a	e	3	5	X		2	Sherman Oaks	3	42	21, 23	27
67	Van Nuys Boulevard Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	8	12	X		2	Sherman Oaks	3	42	21, 23	27, 28
68	Van Nuys Boulevard River Bridge	RB	PUBLIC	a	e	4	6	X		2	Sherman Oaks	3	42	21, 23	27, 28
69	Van Nuys Boulevard under 101 Freeway Portal	PG	PUBLIC	b	f	0.5	0.7	X		2	Sherman Oaks	3	42	23	27, 28
70	Hazeltine River Edge Park	BT, EO, HR, PR, WQ	PUBLIC	b	f	30	40	X		2	Sherman Oaks	3	42	21	28
71	Hazeltine Avenue under 101 Freeway Portal	PG	PUBLIC	b	f	0.5	0.7	X		2	Sherman Oaks	3	42	23	28
72	Valleyheart Riverside Street (Hazeltine to Woodman)	BT, HR, SG, UI, WQ	PUBLIC	a	e	3	5	X		2	Sherman Oaks	3	42	23	28
73	Acquisition of property near Hazeltine and the River	HR, PR, UI, WQ	Private	c	g	80	100	X		2	Sherman Oaks	3	42	21	28
74	101 Underpass	BT	PUBLIC	b	f	5	10	X		2	Sherman Oaks	3	42	21, 23	28
75	Fashion Square River Park	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	20	30	X		2	Sherman Oaks	3	42	21	28
76	Woodman to Coldwater River Greenway (south side)	BT	PUBLIC	b	f	10	20			2, 5	Sherman Oaks, Studio City	3	42	23	28
77	Moorpark Street Local Gateway	PG	PUBLIC	a	e	0.5	0.9	X		2, 5	Sherman Oaks	3	42	23	28
78	Valleyheart Riverside Street (Fulton to Coldwater Canyon)	BT, HR, SG, UI, WQ	PUBLIC	a	e	7	10	X		5	Sherman Oaks, Studio City	3	42	23	28
79	Woodman to Whitsett River Greenway (north side)	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	20	35	X		2, 5	Studio City	3	42	23	28
80	Ventura Boulevard and Coldwater Canyon Boulevard Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		2, 5	Studio City	3	42	23	28
81	Studio City: Coldwater to Whitsett Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	c	g	--	--			2	Studio City	3	42	23	28
82	Laurel Grove Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	4	6	X		2	Studio City	3	42	23	28
83	Laurel Grove Avenue Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		2	Studio City	3	42	23	28
84	Valleyheart Riverside Street (Whitsett to Radford)	BT, HR, SG, UI, WQ	PUBLIC	a	e	5	7	X		2	Studio City	3	42	23	28
85	Laurel Canyon Boulevard Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	6	8	X		2	Studio City	3	42	23	28
86	Laurel Canyon Boulevard River Bridge	RB	PUBLIC	a	e	4	6	X		2	Studio City	3	42	23	28
87	Valley Heart Greenway (Coldwater to Whitsett)	BT, EO, HR, PR, WQ	PUBLIC	a, b	e, f	5	10			2	Studio City	3	42	23	28
88	Laurel Canyon Boulevard Underpass	BT	PUBLIC	b	f	2	4	X		2	Studio City	3	42	23	28
89	Tujunga Wash Confluence Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Private	c	g	--	--			2	Studio City	3	42	23	28
90	Tujunga Wash Confluence Park	BT, EO, HR, PR, WQ, WR	Private	c	g	30	40	X		2	Studio City	3	42	23	28
91	Colfax Avenue Outdoor Classroom	EO, WQ	PUBLIC	a	e	0.5	1	X		2	Studio City	3	42	23	28
92	Ventura Boulevard and Laurel Canyon Boulevard Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		2	Studio City	3	42	23	28
93	CBS Studios Underpass	BT	PUBLIC	b	f	2	4	X		2	Studio City	3	42	23	28
94	Acquisition of property, Colfax to Tujunga Blvd, Ventura to the River	HR, PR, UI, WQ	Private	c	g	80	100	X		2	Studio City	3	42	23	28
95	Radford Avenue to Weddington Park River Greenway	BT, EO, HR, PR, WQ	PUBLIC	a, b	e, f	15	30			2	Studio City	3	42	23	28
96	Ventura Boulevard: Water Quality Treatment	BT, EO, PR, UI, WQ	Mixed	a, c	e, g	15	20	X		2	Studio City	3	42	23	28
97	Ventura Boulevard Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Private	c	g	--	--			2	Studio City	3	42	23	28
98	Weddington Park Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Private	c	g	--	--			2, 4	Studio City	3	42	23	28
99	Beck Avenue Local Gateway	PG	PUBLIC	a	e	0.5	0.9	X		2	Studio City	3	42	23	28
100	101 Underpass at Weddington Park	BT	PUBLIC	b	f	5	10	X		4	Studio City	3	42	23	28
101	Weddington Park Expansion w/ Non-Motorized Bridge	BT, EO, HR, PR, WQ, WR	PUBLIC	a	e	8	12	X	X	4	Studio City	3	42	23	28
102	Weddington Park Regional Gateway	PG	PUBLIC	a	e	1	2	X		4	Studio City	3	42	23	28
103	Weddington Park River Park Buffer	HR, WQ, WR	PUBLIC	a, b	e, f	0.5	1	X		4	Studio City	3	42	23	28
104	Weddington Park Promenade	BT, EO, HR, PR, PT, WQ	PUBLIC	a	e	0.5	1	X		4	Studio City	3	42	23	28
105	Weddington Park to Riverside Drive (by Forest Lawn) River Greenway (north side)	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	25	50			4	Studio City, Greater Toluca Lake	3	42, 43	23, 26	27, 28, 29
106	Lankershim Boulevard Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	12	15	X		4	Studio City, Greater Toluca Lake	3	42	21, 23	28
107	Lankershim Boulevard River Bridge	RB	PUBLIC	a	e	4	6	X		4	Studio City, Greater Toluca Lake	3	42	21, 23	28
108	Lankershim Boulevard and Cahuenga Boulevard Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		4	Studio City, Greater Toluca Lake	3	42	21, 23	28
109	Cahuenga to Headworks River Greenway (south side)+H167	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	20	40			4	Greater Toluca Lake, Hollywood Hills West	3	42, 43	21, 26	27, 28, 29
110	Spreading Grounds Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	PUBLIC	a, b	e, f	--	--		X	4	Hollywood Hills West, Greater Griffith Park	3, 5	42, 43	21	29
111	Bob Hope Drive Non-Motorized Bridge	BT	PUBLIC	b	f	2	4	X		4	Hollywood Hills West, Greater Griffith Park	3, 5	42, 43	21	29
112	Spreading Grounds Promenade	BT, EO, HR, PR, PT, WQ	PUBLIC	a	e	10	15	X		4	Hollywood Hills West, Greater Griffith Park	3	42, 43	21	29
113	Pollywog Park Renovation	BT, EO, HR, PR, WQ	PUBLIC	a	e	10	15	X	X	4	Hollywood Hills West, Greater Griffith Park	3, 5	43	21	29
114	Headworks Wetland Park	BT, EO, HR, PR, WQ, WR	PUBLIC	a	e	50	70	X	X	4	Greater Griffith Park	3	42, 43	21	29
115	Spreading Grounds River Park	BT, EO, HR, PR, WQ, WR	PUBLIC	a, b	e, f	50	70		X	4	Greater Griffith Park	3	42, 43	21	29
116	Spreading Grounds Regional Gateway	PG	PUBLIC	a	e	1	2	X		4	Hollywood Hills West, Greater Griffith Park	3, 5	42, 43	21	29
117	Burbank Western Channel Non-Motorized Bridge	BT	PUBLIC	b	f	2	4	X		4	Greater Griffith Park	3	43	21	29
118	Griffith Park River Park Buffer	SG, WQ	PUBLIC	a, b	e, f	3	6	X		4	Greater Griffith Park	3	43	21	29
119	134 Underpass/Overpass at Spreading Grounds	BT	PUBLIC	b	f	5	10	X		4	Hollywood Hills West, Greater Griffith Park	3	43	21	29
120	South Mariposa Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	2	4	X		4	(City of Glendale)	5	43	21	29

Project Number	Potential Project (see Note 1, below)	Potential Project Categories*	Public or Private Land **	Land Acquisition Required? ***	Project Readiness ****	Total Project Cost (Range, in \$million) (see Note 4, below)		Could Potentially Proceed Prior to Completion of the US Army Corps Feasibility Study	Could Potentially Proceed as a Federal Demonstration Project (see Note 2, below)	City Council District	Neighborhood Council	County Supervisory District	State Assembly District	State Senate District	Federal Congressional District
						1	2								
121	South Mariposa Street Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		4	(City of Glendale)	5	43	21	29
122	Glendale Riverwalk Non-Motorized Bridge	BT	PUBLIC	b	f	2	4	X		4	Greater Griffith Park	3	43	21	29
123	Ferraro Fields Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	PUBLIC	a, b	e, f	--	--		X	4	Greater Griffith Park	3	43	21	29
124	Ferraro Fields Park	BT, EO, HR, PR, WQ	PUBLIC	a	e	10	15	X	X	4	Greater Griffith Park	3	43	21	29
125	River Glen Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	130	180			4	Atwater Village	3	43	21	29
126	Doran Street Industrial Green Street	BT, SG, WQ	PUBLIC	a	e	2	3	X		4	Atwater Village	3	43	21	29
127	Doran Street and San Fernando Road Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		4	Atwater Village	3	43	21	29
128	Verdugo Wash Non-Motorized Bridge	BT	PUBLIC	b	f	2	4	X		4	Atwater Village	3	43	21	29
129	River Glen Wetlands	BT, EO, HR, PR, WQ, WR	Mixed	b, c	f, g	50	70			4	Atwater Village	3	43	21	29
130	River Glen River Park	BT, EO, HR, PR, WQ, WR	Mixed	a, b, c	e, f, g	5	10			4	Atwater Village	3	43	21	29
131	River Glen Non-Motorized Bridge	BT	PUBLIC	a	e	2	4	X		4	Greater Griffith Park	3	43	21	29
132	River Glen Regional Gateway	PG	PUBLIC	a	e	1	2	X		4	Atwater Village	3	43	21	29
133	River Glen Opportunity Area Outdoor Classroom	EO, WQ	PUBLIC	a	e	0.5	1	X		4	(City of Glendale)	3	43	21	29
134	River Glen Opportunity Area Riverside Street	BT, HR, SG, UI, WQ	Private	c	g	6	8	X		4	Atwater Village	3	43	21	29
135	Brazil Street and San Fernando Road Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		4	Atwater Village	3	43	21	29
136	Brazil Street Industrial Green Street	BT, SG, WQ	PUBLIC	a	e	2	3	X		4	Atwater Village	3	43	21	29
137	West end of Brazil Street Paseo	PG, WQ	Mixed	a, c	e, g	2	3	X		4	Atwater Village	3	43	21	29
138	134 Freeway to Colorado Greenway Promenade	BT, EO, HR, PR, PT, WQ	Mixed	a	e	5	8	X		4	Atwater Village	3	43	21	29
139	Acquisition of property near Brazil and the River	HR, PR, UI, WQ	Private	c	g	20	40	X		4	Atwater Village	3	43	21	29
140	Electronics Street Industrial Green Street	BT, SG, WQ	PUBLIC	a	e	2	3	X		4	Atwater Village	3	43	21	29
141	West end of Electronics Street Paseo	PG, WQ	Mixed	a, c	e, g	2	3	X		4	Atwater Village	3	43	21	29
142	Colorado Ave Non-Motorized Bridge	BT	PUBLIC	b	f	4	6	X		4	Atwater Village	3	43	21	29
143	North Atwater Greenway	BT, EO, HR, PR, WQ	PUBLIC	a, b	e, f	10	15		X	4	Atwater Village	3	43	21	29
144	Goodwin Avenue Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	2	4	X		4, 13	Atwater Village	3	43	21	29
145	N. Atwater Park – River Vista Expansion	BT, EO, HR, PR, WQ, WR	PUBLIC	a	e	7	10	X	X	4	Atwater Village	3	43	21	29
146	Verdant St. Non-Motorized Bridge	BT	PUBLIC	a	e	2	4	X		4	Atwater Village	3	43	21	29
147	Los Feliz Equestrian/ Non-Motorized Bridge	BT	PUBLIC	a	e	2	4	X		4	Atwater Village	3	43	21	29, 31
148	Los Feliz Boulevard Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	10	15	X		4, 13	Atwater Village	3	43, 45	21	31, 33
149	Los Feliz Boulevard River Bridge	RB	PUBLIC	a	e	15	20	X		4	Atwater Village	3	43, 45	21	31
150	Legion Lane Park	BT, EO, HR, PR, WQ	Mixed	a, c	e, g	5	7	X		13	Atwater Village	3	45	21	31
151	Sunnynook River Park	BT, EO, HR, PR, WQ	PUBLIC	a	e	10	15	X		4	Greater Griffith Park	3	43	21	31
152	Silver Lake Boulevard Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	3	5	X		13	Glassell Park	1	45	21, 22	31
153	Silver Lake Boulevard Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		13	Atwater Village	1	45	21, 22	31
154	Fletcher Avenue and San Fernando Road Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		1, 13	Atwater Village	1	45	22	31
155	Fletcher Drive Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	7	10	X		1, 4, 13	Elysian Valley Riverside	1	45	22	31
156	Fletcher Drive River Bridge	RB	PUBLIC	a	e	8	12	X		13	Elysian Valley Riverside, Atwater Village	1	45	22	31
157	Fletcher Avenue and on/off ramp to the 2 Freeway Enhanced Intersection	BT	PUBLIC	a	e	0.5	1	X		13	Atwater Village	1	45	22	31
158	Fletcher Drive under 5 Freeway Portal	PG	PUBLIC	b	f	0.5	0.7	X		4, 13	Silver Lake	1	45	22	31
159	Silver Lake Primary Local Green Street	PG, WQ	PUBLIC	a	e	5	10	X		4, 13	Lake	1	45	21, 22	31
160	West end of Edward Way Paseo	PG, WQ	PUBLIC	a	e	2	3	X		1	Glassell Park	1	45	22	31
161	Media Center Drive and Railway Portal	PG	PUBLIC	a	e	0.5	0.7	X		1	Glassell Park	1	45	22	31
162	Edward Way and Railway Portal	PG	PUBLIC	a	e	0.5	0.7	X		1	Glassell Park	1	45	22	31
163	West end of Media Center Drive Paseo	PG, WQ	PUBLIC	a	e	2	3	X		1	Glassell Park	1	45	22	31
164	Taylor Yard Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	450	500		X	1, 13	Glassell Park, Greater Cypress Park, Elysian Valley Riverside	1	45	21, 22	31
165	Taylor Yard River Park	BT, EO, HR, PR, WQ, WR	Private	c	g	60	90		X	1	Park	1	45	22	31
166	Taylor Yard Regional Gateway	PG	PUBLIC	a	e	2	3	X		1, 13	Greater Cypress Park	1	45	22	31
167	Taylor Yard Outdoor Classroom	EO, WQ	Private	c	g	0.5	1	X		1	Greater Cypress Park	1	45	21, 22	31
168	Newell Street under 5 Freeway Portal	PG	PUBLIC	b	f	0.5	0.7	X		13	Elysian Valley Riverside	1	45	22	31
169	Blimp Street Paseo	PG, WQ	PUBLIC	a	e	2	3	X		13	Elysian Valley Riverside	1	45	21, 22	31
170	Acquisition of property, Elysian Valley industrial properties	HR, PR, UI, WQ	Private	c	g	20	40	X		13	Elysian Valley Riverside	1	45	21	31
171	Taylor Yard Non-Motorized Bridge	BT	PUBLIC	b	f	4	6	X		1, 13	Elysian Valley Riverside	1	45	22	31
172	Riverside Park	BT, EO, HR, PR, WQ	PUBLIC	a	e	10	15	X		13	Greater Echo Park Elysian	1	45	21	31
173	Dorris Place Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	1	2	X		13	Elysian Valley Riverside	1	45	21	31
174	Dorris Place Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		13	Elysian Valley Riverside	1	45	21	31
175	Dorris Place Outdoor Classroom	EO, WQ	PUBLIC	a	e	0.5	1	X		13	Elysian Valley Riverside	1	45	21	31
176	East end of Dorris Street Paseo	PG, WQ	PUBLIC	a	e	2	3	X		13	Elysian Valley Riverside	1	45	21	31
177	Dorris Place Sanitation Yard Park	BT, EO, HR, PR, WQ, WR	PUBLIC	a	e	7	10	X		13	Elysian Valley Riverside	1	45	21	31
178	San Fernando Road and Elm Enhanced Intersection (at Taylor Yard)	BT	PUBLIC	a	e	0.5	1	X		1	Greater Cypress Park	1	45	22	31
179	Taylor Yard Promenade	BT, EO, HR, PR, PT, WQ	Mixed	b, c	f, g	20	30			1	Greater Cypress Park	1	45	22	31
180	Arroyo Seco Confluence Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	--	--			1	Greater Cypress Park, Elysian Valley Riverside, Lincoln Heights, Historic Cultural	1	45	21, 22	31

Project Number	Potential Project (see Note 1, below)	Potential Project Categories*	Public or Private Land **	Land Acquisition Required? ***	Project Readiness ****	Total Project Cost (Range, in \$million) (see Note 4, below)		Could Potentially Proceed Prior to Completion of the US Army Corps Feasibility Study	Could Potentially Proceed as a Federal Demonstration Project (see Note 2, below)	City Council District	Neighborhood Council	County Supervisory District	State Assembly District	State Senate District	Federal Congressional District
181	Riverside Driver Underpass by 110 Freeway	BT	PUBLIC	b	f	8	12	X		1	Greater Echo Park Elysian, Greater Cypress park	1	45	21, 22	31
182	Railroad Bridge Underpass/Overpass	BT	PUBLIC	b	f	2	4	X		1	Greater Echo Park Elysian, Greater Cypress park	1	45	21, 22	31
183	Confluence Park	BT, EO, HR, PR, WQ	PUBLIC	a, c	e, g	10	15	X		1	Greater Cypress Park	1	45	22	31
184	110 Underpass at Arroyo Seco	BT	PUBLIC	b	f	10	15	X		1	Greater Cypress Park, Lincoln Heights	1	45	22	31
185	Arroyo Seco Confluence Park	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	4	6	X		1	Greater Cypress Park	1	45	22	31
186	Elysian Park Non-Motorized Bridge	BT	PUBLIC	a	e	2	4	X		1	Lincoln Heights	1	45	21, 22	31
187	Lincoln Heights Riverfront Cultural Center	BT, EO, HR, PR, UI, WQ	PUBLIC	a	e	20	30	X		1	Lincoln Heights	1	45	22	31
188	Buena Vista River Amphitheater at Midway Yard	BT, EO, HR, PR, WQ	PUBLIC	b	f	20	30	X		1	Historical Cultural	1	45	21	31
189	Riverside Drive (near 110 Freeway) to North Spring Street River Greenway	BT, EO, HR, PR, WQ	PUBLIC	b, c	f, g	10	15			1	Greater Cypress Park, Lincoln Heights	1	45	21, 22	31
190	Broadway Bridge Underpass	BT	PUBLIC	b	f	3	5	X		1	Lincoln Heights, Historical Cultural	1	45	21, 22	31, 34
191	Broadway Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	15	20	X		1	Lincoln Heights, Historical Cultural	1	45, 46	21, 22	31, 34
192	Broadway River Bridge	RB	PUBLIC	a	e	35	45	X		1	Lincoln Heights, Historical Cultural	1	45	21, 22	31, 34
193	East End of Los Angeles State Historic Park Portal	PG	PUBLIC	a	e	0.5	0.7	X		1	Historical Cultural	1	45	21, 22	31, 34
194	Cornfields Non-Motorized Bridge	BT	PUBLIC	a	e	4	6	X		1	Historical Cultural	1	45	21, 22	34
195	Chinatown-Cornfields Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	180	230			1, 14	Historical Cultural	1	45, 46	21, 22	31, 34
196	Cornfields Wetland Park	BT, EO, HR, PR, WQ, WR	Private	c	g	30	40	X	X	1	Historical Cultural	1	45	21, 22	31
197	Chinatown/Cornfield River Park	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	5	7	X		1	Historical Cultural	1	45	21, 22	31, 34
198	Chinatown/Cornfield Opportunity Area Outdoor Classroom	EO, WQ	PUBLIC	a	e	0.5	1	X		1	Historical Cultural	1	45	21, 22	34
199	Chinatown/Cornfield Opportunity Area Riverside Street	BT, HR, SG, UI, WQ	Private	c	g	4	6	X		1	Historical Cultural	1	45	21, 22	34
200	Cornfields-Chinatown Regional Gateway	PG	PUBLIC	a	e	2	3	X		1	Historical Cultural	1	45	21, 22	31
201	Sotello/Leroy Promenade Parkway + DWP Easement	BT, EO, HR, PR, PT, WQ	Mixed	a, c	e, g	30	50			1	Historical Cultural	1	45	21, 22	34
202	El Pueblo Lake	BT, EO, HR, PR, WQ	PUBLIC	a	e	60	80	X	X	1	Historical Cultural & Lincoln Hts	1	45	21, 22	31, 34
203	Albion Street Outdoor Classroom	EO, WQ	PUBLIC	a	e	0.5	1	X		1	LincolnHeights	1	45	22	31
204	Albion Dairy Park	BT, EO, HR, PR, WQ	Private	c	g	20	30	X		1	LincolnHeights	1	45	22	31
205	North Main Street under 5 Freeway Portal	PG	PUBLIC	b	f	0.5	0.7	X		1	LincolnHeights	1	45	22	31
206	Chinatown/Cornfield Opportunity Area Promenade	BT, EO, HR, PR, PT, WQ	Mixed	b, c	f, g	7	10			1, 14	Greater Echo Park Elysian, Historical Cultural, Lincoln Heights	1	45	22	31
207	Mission Road Rail Yards Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Private	c	g	--	--			14	Lincoln Heights	1	45, 46	22	31, 34
208	Mission Yard River Loop	BT, HR, PR, WQ	Private	c	g	50	80	X		14	Lincoln Heights	1	45	22	31, 34
209	Mission Yard River Park	BT, EO, HR, PR, UI, WQ, WR	Mixed	c	g	60	80	X		14	Lincoln Heights	1	45, 46	22	31, 34
210	East Side Soccer Fields Complex	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	20	40	X		14	Boyle Heights	1	46	22	34
211	Commercial Street Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	2	4	X		9, 14	Historical Cultural	1	46	22	34
212	Commercial Street Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		9, 14	Historical Cultural	1	46	22	34
213	Downtown Industrial Opportunity Area Promenade	BT, EO, HR, PR, PT, WQ	Mixed	b, c	f, g	15	20			14	Boyle Heights	1	46	22	34
214	1 <sup>st</sup> Street Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	8	12	X		9, 14	Downtown L.A., Boyle Heights	1	46	22	34
215	1 <sup>st</sup> Street River Bridge	RB	PUBLIC	a	e	35	45	X		9, 14	Downtown L.A., Boyle Heights	1	46	22	34
216	East 3 <sup>rd</sup> Street Industrial Green Street	BT, SG, WQ	PUBLIC	a	e	2	4	X		14	Boyle Heights	1	46	22	34
217	4 <sup>th</sup> Street Arterial Green Street	BT, SG, WQ	PUBLIC	a	e	10	15	X		9, 14	Downtown L.A., Boyle Heights	1	46	22	34
218	4 <sup>th</sup> Street River Bridge	RB	PUBLIC	a	e	40	50	X		9, 14	Downtown L.A., Boyle Heights	1	46	22	34
219	Downtown Industrial River Park	BT, EO, HR, PR, WQ	Mixed	b, c	f, g	15	20	X		14	Boyle Heights	1	46	22	34
220	Boyle Heights Connector Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	--	--			9, 14	Downtown L.A., Boyle Heights	1	46	22	34
221	Downtown Arts District Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	--	--			9, 14	Downtown L.A.,	1	46	22	34
222	Downtown Industrial Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	200	250			9, 14	Historical Cultural, Downtown L.A. & Boyle Hts	1	46	22	34
223	Downtown/Industrial Regional Gateway	PG	PUBLIC	a	e	2	3	X		14	Boyle Heights	1	46	22	34
224	Downtown Industrial Opportunity Area Outdoor Classroom	EO, WQ	PUBLIC	a	e	0.5	1	X		14	Boyle Heights	1	46	22	34
225	1st to 6th Street River Loop	BT, HR, PR, WQ	Mixed	a, c	e, g	60	90	X		9, 14	Historical Cultural, Downtown L.A. & Boyle Hts	1	46	22	34
226	Downtown / Industrial Non-Motorized Bridge	BT	PUBLIC	a	e			X		14	Boyle Heights	1	46	22	34
227	East 6 <sup>th</sup> Street Industrial Green Street	BT, SG, WQ	PUBLIC	a	e	2	4	X		14	Boyle Heights	1	46	22	34
228	Link between Hollenbeck Park and Inez Street Paseo	PG, WQ	PUBLIC	a	e	4	6	X		14	Boyle Heights	1	46	22	34
229	South Mission Street Industrial Green Street	BT, SG, WQ	PUBLIC	a	e	2	4	X		14	Boyle Heights	1	46	22	34
230	Industrial & Jesse Street Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	3	5	X		14	Downtown L.A.	1	46	22	34
231	Industrial & Jesse Street Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		14	Downtown L.A.	1	46	22	34
232	7th St. River Park	BT, EO, HR, PR, WQ	Mixed	c	g	7	10	X		14	Downtown L.A., Boyle Heights	1	46	22	34
233	Bay & Sacramento Street Primary Local Green Street	BT, SG, WQ	PUBLIC	a	e	3	5	X		14	Downtown L.A.	1	46	22	34
234	Sacramento Street and Railway Portal	PG	PUBLIC	a	e	0.5	0.7	X		14	Downtown L.A.	1	46	22	34
235	Bay and Sacramento Street Pocket Park	BT, EO, HR, PR, SG, WQ, WR	Mixed	a, c	e, g	1	2	X		14	Downtown L.A.	1	46	22	34
236	Rio Vista Blufftop Park	BT, EO, HR, PR, WQ	Private	c	g	20	30	X		14	Boyle Heights	1	46	22	34
237	Santa Fe Warehouse Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Mixed	a, b, c	e, f, g	--	--			14	Downtown L.A.	1	46	22	34
238	Sears/Crown Coach Opportunity Area	BT, EO, FR, HR, PG, PR, PT, RB, SG, UI, WQ, WR	Private	c	g	--	--			14	Boyle Heights	1	46	22	34
239	Crown River Gateway and Ecological Park	BT, EO, HR, PR, UI, WQ, WR	Mixed	c	g	10	15	X		14	Downtown Los Angeles	1	46	22	34

Project Number	Potential Project (see Note 1, below)	Potential Project Categories*	Public or Private Land**	Land Acquisition Required?***	Project Readiness****	Total Project Cost (Range, in \$million) (see Note 4, below)	Could Potentially Proceed Prior to Completion of the US Army Corps Feasibility Study	Could Potentially Proceed as a Federal Demonstration Project (see Note 2, below)	City Council District	Neighborhood Council	County Supervisory District	State Assembly District	State Senate District	Federal Congressional District
240	<b>RIVER REACHES (See Note 3, below):</b>													
240.12	Reaches 1 & 2													
	Near-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	90 110	X (partially)	X (partially)	3, 5, 6, 12	Canoga Park, Winnetka, Woodland Hills-Warner Center, Reseda, Encino, W. Van Nuys/Lake Balboa, Tarzana	3	40, 41	20, 21, 23	27, 30
	Long-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	900 1,200			3, 5, 6, 12		3	40, 41	20, 21, 23	27, 30
	Long-term Widening	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	Mixed	b,c	f,g	600 800			3, 5, 6, 12		3	40, 41	20, 21, 23	27, 30
240.3	Reach 3													
	Near-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	50 60			2, 5		3	42	21, 23	27, 28
	Long-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	500 700			2, 5	Sherman Oaks, Studio City	3	42	21, 23	27, 28
	Long-term Widening	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	Mixed	b,c	f,g	160 200			2, 5		3	42	21, 23	27, 28
240.45	Reaches 4 & 5													
	Near-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	100 120	X (partially)	X (partially)	2, 4	Studio City, Greater Toluca Lake, Hollywood Hills West, Greater Griffith Park	3, 5	42, 43	21, 23, 26	27, 28, 29
	Long-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	900 1,100			2, 4		3, 5	42, 43	21, 23, 26	27, 28, 29
	Long-term Widening	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	Mixed	b,c	f,g	180 220			2, 4		3, 5	42, 43	21, 23, 26	27, 28, 29
240.8	Reach 8													
	Near-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	40 50			1, 9, 14	Greater Echo Park, Elysian Valley	1	45, 46	21, 22	31, 34
	Long-term	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	PUBLIC	b	f	550 700			1, 9, 14	Riverside, Greater Cypress Park, Lincoln Heights, Historical Cultural, Boyle Heights, Downtown L.A.	1	45, 46	21, 22	31, 34
	Long-term Widening	BT, EO, FR, HR, PG, PR, PT, RB, WQ, WR	Mixed	b,c	f,g	200 250			1, 9, 14		1	45, 46	21, 22	31, 34

* Project Categories	** Public or Private Land	City Councilmembers	County Supervisors	Federal Congressional Districts
BT Bikeways / Bike Paths / Pedestrian Paths, Trails, & Amenities	"Mixed" is shown for those areas that would require both public and private land.	CD 1 -- Ed Reyes	1 - Gloria Molina	27 - Brad Sherman
EO Educational Opportunities	In general, "public" is shown for Greenway projects proposed along the publicly-owned portion of the River channel; acquisition of adjacent private land along the channel would allow a wider greenway.	CD 2 -- Wendy Greuel	3 - Zev Yaroslavsky	28 - Howard L. Berman
FR Flood Damage Reduction Measures		CD 3 -- Dennis Zine	5 - Michael Antonovich	29 - Adam Schiff
HR Habitat Restoration / Creation / Protection	*** Land Acquisition Required?	CD 4 -- Tom LaBonge	30 - Henry Waxman	31 - Xavier Becerra
PG Paseos / Portals / Gateways	a = City-owned; no acquisition required	CD 5 -- Jack Weiss	33 - Diane E. Watson	34 - Lucille Roybal-Allard
PR Parks / Recreation (passive or active recreation, including ballfields: dependent on parcel size)	b = publicly-owned; acquisition/transfer/lease or approvals required (e.g. Caltrans, LAUSD, County, Federal gov't)	CD 6 -- Tony Cardenas	State Assembly	State Senate
PT Public Transit	c = privately-owned; acquisition required	CD 7 -- Richard Alarcón	40 - Lloyd E. Levine	20 - Alex Padilla
RB Roads and Motorized Bridges	**** Project Readiness	CD 8 -- Bernard Parks	41 - Julia Brownley	21 - Jack Scott
SG Street / Urban Greening	d = project scoped; partially or fully funded; environmental clearance complete or pending	CD 9 -- Jan C. Perry	42 - Mike Feuer	22 - Gilbert A. Cedillo
UI Urban Infill	e = design process could begin as soon as funding available; City-owned and/or no additional land acquisition req'd	CD 10 -- Herb J. Wesson, Jr.	43 - Paul Krekorian	23 - Sheila J. Kuehl
WQ Water Quality Measures	f = must first acquire/transfer/lease or get approvals on publicly-owned land	CD 11 -- Bill Rosendahl	45 - Kevin de Leon	26 - Mark Ridley-Thomas
WR Wetland Restoration / Creation	g = must first acquire privately-owned land	CD 12 -- Greig Smith	46 - Fabian Núñez	
		CD 13 -- Eric Garcetti		
		CD 14 -- Jose Huizar		
		CD 15 -- Janice Hahn		

**NOTE 1:** Costs for Opportunity Areas are based on modifications to public lands (channel, green streets, parks, bridges, plantings, etc.), and exclude real estate and urban/building development costs.

Costs for Opportunity Areas are only provided for the 5 priority Opportunity Areas.

**NOTE 2:** Projects that could potentially proceed as Federal demonstration projects would require specific Congressional authorization and, in most cases, additional hydraulic modeling.

**Note 4:** Costs in the table above include 30% contingency and 23% "soft" costs (design, inspection, permitting, etc.), without escalation and without land costs

PROJECT TYPES	COST RANGE (\$) +	DESCRIPTION
<b>Enhanced Intersections (each)</b>	300,000 - 700,000	Intersections that promote a pedestrian-safe connection to the River through the use of traffic-calming measures, special crosswalks and sidewalks, lighting, and other safety-oriented features.
<b>Gateways (each)</b>	200,000 - 800,000	Signature elements, such as large archways or pleasing signs, that mark local and regional streets, passages, and connections to the River.
<b>Greenways, with bike paths, pedestrian paths, trails, &amp; amenities (acre)</b>	1,000,000 - 2,000,000	Continuous, multi-use paths that combine recreational amenities (such as bike and pedestrian paths) with greening features (for example, landscaping, habitat, and water quality measures).
<b>Outdoor Classrooms (each)</b>	300,000 - 700,000	Outdoor learning facilities that have a River or restoration focus; may include small amphitheatres, demonstration water quality projects, and informational signage.
<b>Park buffers (acre)</b>	500,000 - 1,000,000	Planted areas that provide a physical separation between habitat and adjacent recreation uses.
<b>Parks</b>		
Parks, including water quality BMP's, bike/pedestrian paths (acre)	1,500,000 - 2,000,000	Open space areas for active and/or passive recreational use that may include bike and pedestrian paths, trails, habitat, ballfields, dedicated wetland and water quality measures, interpretive signage, public art, open green space, rest areas, and/or other amenities. Pocket parks are smaller-scale areas that can transform small, underused spaces into public amenities. Parks may have lighting installations, depending on use and location.
Parks, with ball fields (acre)	1,000,000 - 1,500,000	
Pocket parks (each)	500,000 - 1,000,000	
Wetland park (acre)	1,000,000 - 1,500,000	
<b>Paseos (acre)</b>	1,000,000 - 1,500,000	Intimate, nonmotorized pedestrian/bicycle thoroughfares within residential, office, industrial, or commercial developments; can include furniture, cafes, lighting, vegetation, and public art.
<b>Portals (each)</b>	200,000 - 400,000	Portals are similar to gateways, but use the existing infrastructure of road/railroad bridges and freeway underpasses to indicate and celebrate entrance locations to the River District.
<b>Promenades (acre)</b>	1,000,000 - 1,500,000	Paths along the River with amenities and features such as public art, riverside concessions, belvederes offering civic vistas, bike paths, recreational pedestrian trails, and linear parks.
Promenades including street modifications or creation (acre)	2,000,000 - 2,500,000	Contextual public art can be used to add character, along with features to highlight ecology and cultural history.
<b>Roads and Bridges</b>		
Pedestrian and motorized bridges, retrofit (sq ft)	200 - 300	Roads and bridges that have dedicated pedestrian paths and bikeways. Additional width can be added to existing bridges by retrofitting, if necessary for pedestrian and nonmotorized traffic. Historic bridges have higher costs due to the need to maintain their historic character when constructing modifications (with associated higher costs for facades, bridge piers, and reinforcements).
Pedestrian and motorized bridges, new construction (sq ft)	400 - 600	
Historic bridges retrofit (sq ft)	800 - 1,200	
<b>Street greening</b>		
Local green streets (mile)	3,000,000 - 5,000,000	Streets that incorporate native streetscape plantings, bike paths, pedestrian facilities, water quality improvements such as porous paving and infiltration medians, and amenities such as furniture, signage, paving, and public art. Green streets provide connectivity between the River and the community, and demonstrate a new environmental paradigm.
Arterial green streets (mile)	5,000,000 - 7,000,000	
<b>Underpass, for pedestrian and bike paths under bridges (per 100 feet of linear distance)</b>	1,500,000 - 3,000,000	Grade-separated crossings underneath roads/freeways that allow the continuation of bike, pedestrian, or equestrian activity without having to exit the greenway/bike path when crossing a perpendicular road.

+ Costs shown in this Project Type table are based on the units of measure indicated in parentheses; for example, the costs for Park Buffers are shown on a per-acre basis. The range in costs are due to differences in construction difficulty, economies of scale, and the size of features within each project type. The costs shown in this table, unlike the main table above, represent raw construction costs only, with no contingencies, design and other "soft" costs, or land acquisition/relocation costs.

## ESTIMATED COSTS FOR PROPOSED PLAN IMPROVEMENTS

Cost estimates were developed for four major reaches and five Opportunity Areas along the Los Angeles River. The reaches and Opportunity Areas are addressed moving from upstream to downstream, and are summarized in the associated tables.

### DERIVATION OF COST INFORMATION

The costs provided in the summary tables, below, are in 2006 dollars and are based on current actual costs from construction projects and manufacturer's quotes. The real estate costs are based on discussions with local experts.

Costs are included for channel construction, adjacent parks, vegetated benches in the channel, Arterial Green Streets, Primary and Secondary Green Streets, Multiuse Bikeways, Regional and Neighborhood Gateways, Bikeway Bridge Underpasses, lighting, warning/safety infrastructure, real estate, and ten rubber dams.

Contingencies of 30 percent have been applied to the construction costs, and the engineering, design, construction supervision, inspection, permitting, and other "soft costs" are applied to the total project costs minus the River right-of-way costs. It should be noted that these estimates are based only on conceptual ideas and would have to be developed in more detail as the alternatives are refined and modified in the design stage. It is also important to note that inflation would play a major role in the costs, and particularly would impact the real estate costs along the River. No escalation is currently included in the cost estimates, though this could average between four and 10 percent annually, depending on inflation and material prices.

### COSTS FOR IMPROVEMENT OF CHANNEL REACHES

The reaches include (1) the Confluence to Sepulveda Basin, (2) Sepulveda Dam to Tujunga Wash, (3) Tujunga Wash to the Spreading Grounds, and (4) the Cornfields-Chinatown area to 1st Street. Costs are not estimated for the reach from the Spreading Grounds to Verdugo Wash because of the need to perform more sophisticated hydraulic modeling as a consequence of this reach's transitional and curve-critical

nature. Also, costs have not been estimated for the reach downstream of the River Glen Opportunity Area to Taylor Yard. In this area, the channel is already in a soft-bottom condition and no major improvements are contemplated, though it is expected that over the long-term, removal of nonnative plant species and restoration of indigenous landscapes would be contemplated. The addition of neighborhood connections in this reach are recommended rather than major channel configuration changes.

Each reach has three potential alternatives addressed here:

- Near term, which addresses what can be done within the existing River channel right-of-way along with some connections to the community;
- Long-term, which generally involves modifications within the existing right-of-way, connections to the community and greening of the River by adding box culverts under the channel;
- Long-term widening, which requires sufficient right-of-way to allow greening of the River without the need for channel lining.

The long-term widening costs are estimated to illustrate what it would take if sufficient right-of-way were acquired to allow widening to a more natural, vegetated state with no separate conveyance (such as an underground culvert) or storage. It therefore provides costs associated with the extreme point of the channel width. Any additional storage within the watershed or alternate means of moving water would reduce the required width of the channel.

The costs of storage outside the channel, elsewhere in the watershed, were not investigated even though the acreage requirements for storage were illustrated in Chapter Four. The cost of attaining the required storage is too dependent on location in order to assign costs because neighborhood variations in land values occur, and also, the distance from the Los Angeles River affects the amount of storage. It is recommended that an optimization effort take place that considers site-specific availability of widening the channel plus watershed storage.



top - Existing conditions section, Reach 2

middle - Near-term improvements, Reach 2

bottom - Long-term improvements, Reach 2

Reach 1 - Confluence to Sepulveda Basin

The confluence of Calabasas and Bull Creeks to the Sepulveda Basin

- Near-Term: Terraces at 50-year level for treatment of side drain discharges with trees planted in contained planters, hanging vines, hard surface trail at 50-year elevation.
- Long-Term: Near-term plus buried rectangular concrete box culvert, channel widened, unlined low flow channel, extensive plantings in wide overbanks, trees planted in contained planters.
- Long Term Widening Only: Widen the River sufficiently to lower velocities so bank linings can be removed, add plantings and recreation trails.

Reach 2 - Sepulveda Dam to Tujunga Wash

- Near-Term: Stepped side slope on one side, plantings and trees above the 50-year level, hanging vines, hard surface trail at 50-year elevation.
- Long-Term: Near-term plus buried rectangular concrete box culvert, channel widened, unlined low flow channel, extensive plantings in wide overbanks including trees, reduction of one 12 foot parking lane on North and South Valley Heart Drive.
- Long-Term Widening Only: Widen the River sufficiently to lower velocities so bank linings can be removed, add plantings and recreation trails.

Reach 3 - Tujunga Wash to Spreading Grounds

- Near-Term: Cantilevered partial cover on one side, steps on overbank, plants and trees in overbank, hanging vines.
- Long-Term: Near-term plus buried rectangular concrete box culvert, channel converted from rectangular to soft-bottomed trapezoidal, extensive plantings in wide overbanks, including trees.
- Long-Term Widening Only: Widen the River sufficiently to lower velocities so bank linings can be removed, add plantings and recreation trails.

Reach 4 - Cornfields-Chinatown area to 1st Street

- Near-Term: Benches at 50-year level for treatment of side drain discharges with trees planted in boxes, hanging vines, hard surface trail at 50-year elevation.
- Long-Term: Near-term plus buried rectangular concrete box culvert, channel widened, unlined low flow channel, extensive plantings in wide areas just outside of the channel wall, trees planted in contained planters.
- Long-Term Widening Only: Widen the River sufficiently to lower velocities so bank linings can be removed, add plantings and recreation trails.

	REACH LENGTH (FT)	CONSTRUCTION COST <sup>1</sup> RANGE (\$ 2007)		LAND ACQUISITION RANGE (\$ 2007)		TOTAL PROJECT COST RANGE (\$ 2007)	
<b>REACHES</b>							
Confluence to Sepulveda Basin	28,700						
Near Term		\$ 90,000,000	\$ 110,000,000	\$ -	\$ -	\$ 90,000,000	\$ 110,000,000
Long Term		\$ 940,000,000	\$ 1,170,000,000	\$ 200,000,000	\$ 250,000,000	\$ 1,140,000,000	\$ 1,420,000,000
Long Term Widening Only		\$ 590,000,000	\$ 740,000,000	\$ 1,510,000,000	\$ 1,890,000,000	\$ 2,100,000,000	\$ 2,630,000,000
Sepulveda Dam to Tujunga Wash	26,600						
Near Term		\$ 50,000,000	\$ 60,000,000	\$ -	\$ -	\$ 50,000,000	\$ 60,000,000
Long term		\$ 520,000,000	\$ 650,000,000	\$ 330,000,000	\$ 410,000,000	\$ 850,000,000	\$ 1,060,000,000
Long Term Widening Only		\$ 160,000,000	\$ 200,000,000	\$ 840,000,000	\$ 1,050,000,000	\$ 1,000,000,000	\$ 1,250,000,000
Tujunga Wash to Spreading Grounds	17,900						
Near term		\$ 100,000,000	\$ 120,000,000	\$ -	\$ -	\$ 100,000,000	\$ 120,000,000
Long term		\$ 860,000,000	\$ 1,070,000,000	\$ 580,000,000	\$ 730,000,000	\$ 1,440,000,000	\$ 1,800,000,000
Long Term Widening Only		\$ 180,000,000	\$ 220,000,000	\$ 1,250,000,000	\$ 1,560,000,000	\$ 1,430,000,000	\$ 1,780,000,000
Cornfields-Chinatown area to 1st Street	12,000						
Near Term		\$ 40,000,000	\$ 50,000,000	\$ -	\$ -	\$ 40,000,000	\$ 50,000,000
Long Term		\$ 550,000,000	\$ 690,000,000	\$ 110,000,000	\$ 140,000,000	\$ 660,000,000	\$ 830,000,000
Long Term Widening Only		\$ 200,000,000	\$ 250,000,000	\$ 840,000,000	\$ 1,050,000,000	\$ 1,040,000,000	\$ 1,300,000,000

NOTES:

1. Construction costs include:

- labor and materials, including channel demolition/reconstruction, planting, hardscape, paving, rubber dams (10), bridge reconstruction, etc.
- contingency percentage = 30% of initial construction costs
- design and administration costs (also known as "soft costs") = 23%, which include engineering, design, project management, construction management, contract administration, monitoring, inspection, and permitting. The 23% is applied to initial construction costs + contingency, without land costs

## OPPORTUNITY AREAS

### Canoga Park

*Alternative A* - Channel widened, riparian habitat partially restored, ponded area of open water created, overbank planting, linear park created, landscaped benches for side drain discharges, trees in planter boxes, hanging vines, neighborhood connections.

*Alternative B* - Channel widened, riparian habitat partially restored, ponded area of open water created, overbank planting, linear park created, landscaped benches for side drain discharges, extensive neighborhood connections, trees in planter boxes, hanging vines.

### River Glen

*Alternative A* - Confluence modifications and River realignment, greenbelt created, wetland created, River access.

*Alternative B* - Confluence modifications and River realignment, greenbelt created, wetland created, parkland created, trails and trail connections.

### Taylor Yard

*Alternative A* - Channel widening and removal of concrete, bank naturalization, major plantings, bank reconstruction, riparian habitat partially restored.

### Cornfields-Chinatown

*Alternative A* - Ponded area of open water created, community connections, bank modifications, cantilevered parks and urban plazas created.

*Alternative B* - Diversion of a portion of the channel flow to create an island, ponded area of open water created, partial restoration of riparian habitat, community connections

### Downtown Industrial Area

*Alternative A* - Stepped River access, community connections, extensive plantings. Three neighborhood parks created that connect to the Boyle Heights community.

*Alternative B* - Stepped River access, extensive system of plazas, urban promenades and gardens, community connections, extensive plantings.

	REACH LENGTH <sup>1</sup> (FT)	CONSTRUCTION COST <sup>2</sup> RANGE (\$ 2007)		LAND ACQUISITION <sup>3</sup> RANGE (\$ 2007)		TOTAL PROJECT COST RANGE (\$ 2007)	
<b>OPPORTUNITY AREAS</b>							
Canoga Park							
Alternative A	3,365	160,000,000	200,000,000	56,000,000	70,000,000	220,000,000	270,000,000
Alternative B	4,007	170,000,000	210,000,000	40,000,000	50,000,000	210,000,000	260,000,000
River Glen							
Alternative A	1,600	120,000,000	150,000,000	40,000,000	50,000,000	160,000,000	200,000,000
Alternative B	1,600	170,000,000	210,000,000	40,000,000	50,000,000	210,000,000	260,000,000
Taylor Yard							
Alternative A	7,400	380,000,000	470,000,000	70,000,000	90,000,000	450,000,000	560,000,000
Cornfields-Chinatown							
Alternative A	2,100	140,000,000	180,000,000	368,000,000	460,000,000	510,000,000	640,000,000
Alternative B	2,100	160,000,000	200,000,000	690,000,000	860,000,000	850,000,000	1,060,000,000
Downtown Industrial Area							
Alternative A	6,950	170,000,000	210,000,000	60,000,000	80,000,000	230,000,000	290,000,000
Alternative B	6,950	180,000,000	230,000,000	80,000,000	100,000,000	260,000,000	330,000,000

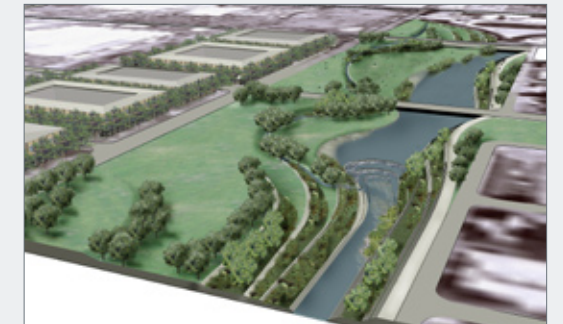
**NOTES:**

1. Reach length applies to the Opportunity Areas in order to provide a sense of linear extent, even though the Opportunity Areas vary in width according to the specific strategies proposed.

2. Construction costs include:

- labor and materials, including channel demolition/reconstruction, planting, hardscape, paving, rubber dams (10), bridge reconstruction, etc.
- contingency percentage = 30%
- design and administration costs (also known as "soft costs") = 23%, which include engineering, design, project management, construction management, contract administration, monitoring, inspection, and permitting. The 23% is applied to initial construction costs + contingency, without land costs

3. The Cornfields-Chinatown Land Acquisition costs include relocation of DWP's electrical substation, prorated for each alternative, per DWP costs.



Canoga Park - Preferred Alternative B



River Glen - Preferred Alternative A



Cornfields/Chinatown Area - Preferred Alternative B



Downtown Industrial Area - Preferred Alternative A

## TYPICAL FINANCING TOOLS

- Federal and state appropriations, grants and matching funds
- County, City and local funds
- General obligation funds
- Industrial revenue bonds, lease-revenue bonds, certificates of participation and other forms of public and quasi-public debt
- Tax capture districts
- Private loans
- Private investment
- New markets tax concepts
- Section 108 loan guarantees
- California Infrastructure Banks bond financing

## FINANCING RIVER IMPROVEMENTS

## THE RANGE OF FINANCING TOOLS

Every successful River revitalization project has used multiple financing tools to implement master planning objectives. With a myriad of project activities that must be phased, implemented and managed, no single agency, entity or financing tool can be expected to shoulder all of the responsibilities or all of the costs. The essential steps for obtaining effective financing for River improvement projects are straightforward: The River needs a vision; it needs a governance structure that would remain energized and focused on finance and implementation; and it needs ongoing community involvement and support. This Plan lays the groundwork for each of these three conditions to be achieved.

In reviewing other River projects across the United States and around the world, one thing is clear --only through the adoption of a sound plan and a sound management structure can partnership opportunities for financing begin to emerge. The next phases for implementation of this Plan include building alliances around project elements, defining budgets and schedules, mobilizing human and financial resources, and then accessing a wide variety of financing tools.

## Common financing tools used for similar projects include:

*Federal and State appropriations, grants and matching funds*

Because of the scope, magnitude and importance of the Los Angeles River, direct funds are available from Federal and State governments, comparable to similar investments made in the Everglades and , the Mississippi River projects, and other large-scale environmental and economic development initiatives. The City has already entered into an agreement with the Federal Government to study the feasibility of features of this Plan. Coordinated efforts by all local jurisdictions should continue to intensively pursue the support of State and Federal legislators.

*County, City and local funds*

To the extent available, the County of Los Angeles and City of Los Angeles could direct monies toward River improvement projects. The analyses in this Plan predict that these investments would return many times their original cost in direct and indirect public benefits.

*General obligation bonds*

Interest and principal payments on general obligation bonds are funded out of the general fund of the issuing agency. This form of bond financing is supported by the full faith and credit of the issuing agency and, therefore, requires voter approval.

Recent, successful voter initiatives for park land acquisition, libraries, schools, infrastructure and other public improvements with substantial perceived benefits indicate that a River improvement bond or a portion of a bond for River improvements could be considered.

*Industrial revenue bonds, lease-revenue bonds, certificates of participation and other forms of public or quasi-public debt*

Industrial revenue bonds, lease-revenue bonds and certificates of participation do not require voter approval. They do, however, require an identified and reserved source of revenues for the repayment of funds. This, in the case of the River, may be difficult to obtain, unless the bond is issued for some specific revenue-producing purpose. However, industrial users with specific projects and credit support could be funded through the City of Los Angeles Industrial Authority

*Tax capture districts*

Tax capture strategies involve special assessments on specific private properties which are directly benefited by municipal improvements. By pledging a future stream of anticipated revenues, an issuing authority may create or "float" a bond to finance, in advance, the public improvements which would enable the stream of revenues to be realized.

In the State of California, tax capture strategies may take several forms, including redevelopment districts, Community Facilities (Mello Roos) Districts, and special tax and assessments districts, including private Business Improvement Districts made up of one or multiple private properties.

Tax capture mechanisms have been applied successfully in many jurisdictions, both locally and across the nation. For example, a Metropolitan Assessment District was created on several hundred acres of former industrial and railroad land along the South Platte River in Denver. Assessment there, on private property (not including single-family homes) is collected by a taxing district governed by a board that establishes priorities and requirements for the construction of local streets, parks and infrastructure within the district.

The Anacostia Water Corporation of the District of Columbia has established a tax increment financing district to capture the increase in taxes collected within the district for a period of 25 years. The district is governed by a board that establishes priorities and requirements for the construction of streets, parks and infrastructure within the district.

The St. Louis area Great Rivers Greenway District is funded through a special purpose tax that generates about \$22 million per year in capital and operations funding, with an obligation that 50 percent of the tax proceeds be returned directly to the five counties and over 60 municipalities within the district.

In California, Community Facilities Districts often issue “Mello Roos” bonds to finance public-serving infrastructure. Properties which are benefited by the proposed infrastructure agree to assess a “special tax” on themselves to service and retire the Mello Roos debt.

Similarly, a State-sanctioned redevelopment agency can collect a certain portion of the increase in property taxes within a designated redevelopment zone and pledge this “tax increment” to the financing of area-wide public improvements. In this case, a redevelopment area must be established and certain findings of “blight” in the area must be made in order to meet the requirements of State redevelopment law.

In summary, some form of “benefit district” or multiple districts, could be established along the Los Angeles River. Within these districts, long-term and large-scale capital improvements to the River could be funded through bond issues, with the cost of the bonds repaid over time using future assessment district or tax increment revenue.

#### *Zoning Incentives*

A variety of zoning and entitlement incentive programs could be initiated by the City to encourage appropriate investments along the River. These incentives include tiered zoning with density bonuses, expedited approvals, and adjusted permit fees.

#### *Private grants*

A number of highly-regarded foundations, philanthropic organizations, and individuals have made material contributions to environmental and economic initiatives in California and across the nation. Selective applications to these sources of funds should be considered.

#### *Private loans*

It may be possible to secure debt financing for River improvements through conventional banking sources. A qualified borrower, adequate security, and an adequate means of repayment would typically be required. This alternative is generally more expensive than tax-exempt bonding or public lending sources.

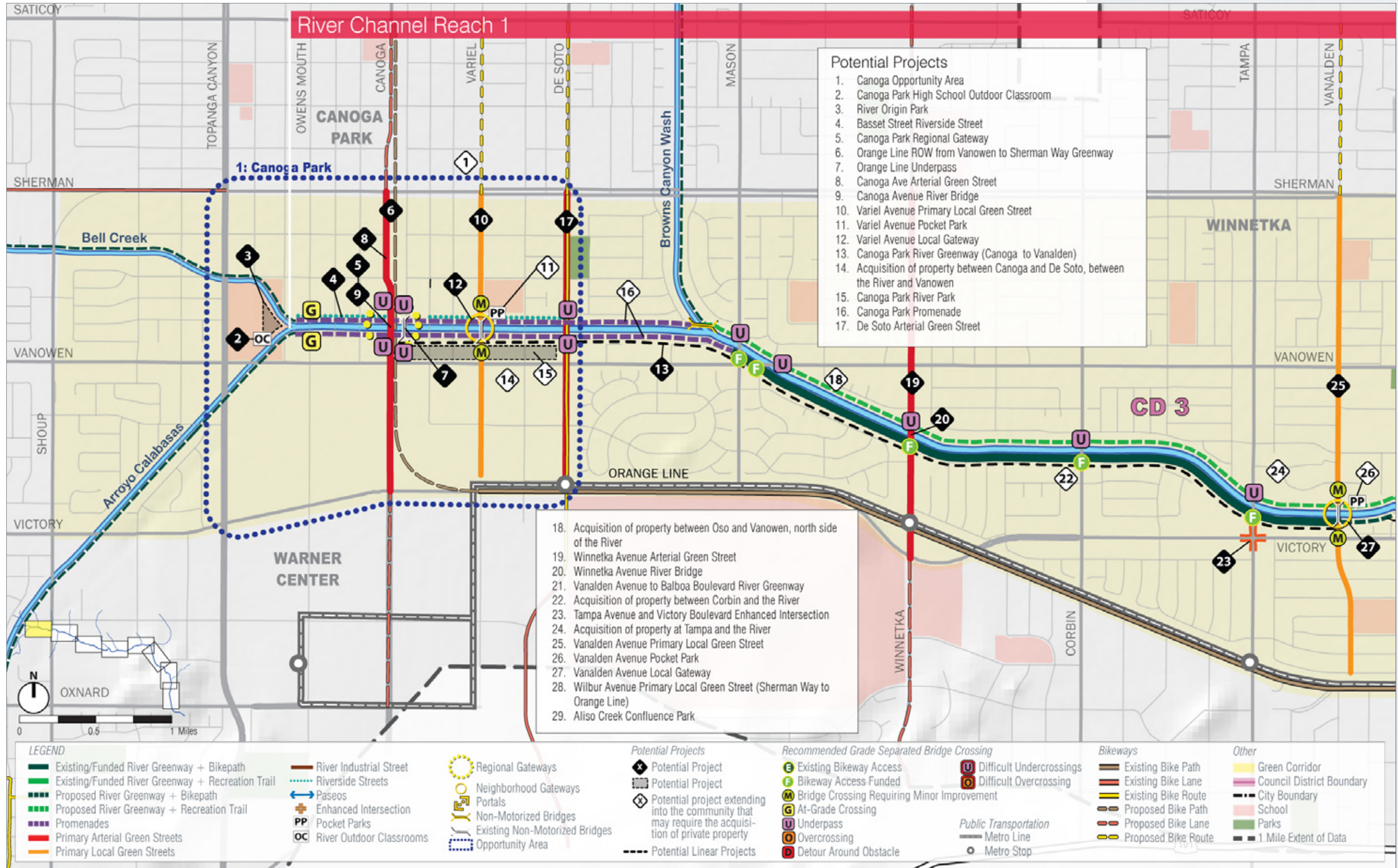
### SPECIFIC FUNDING PROGRAMS AND STRATEGIES

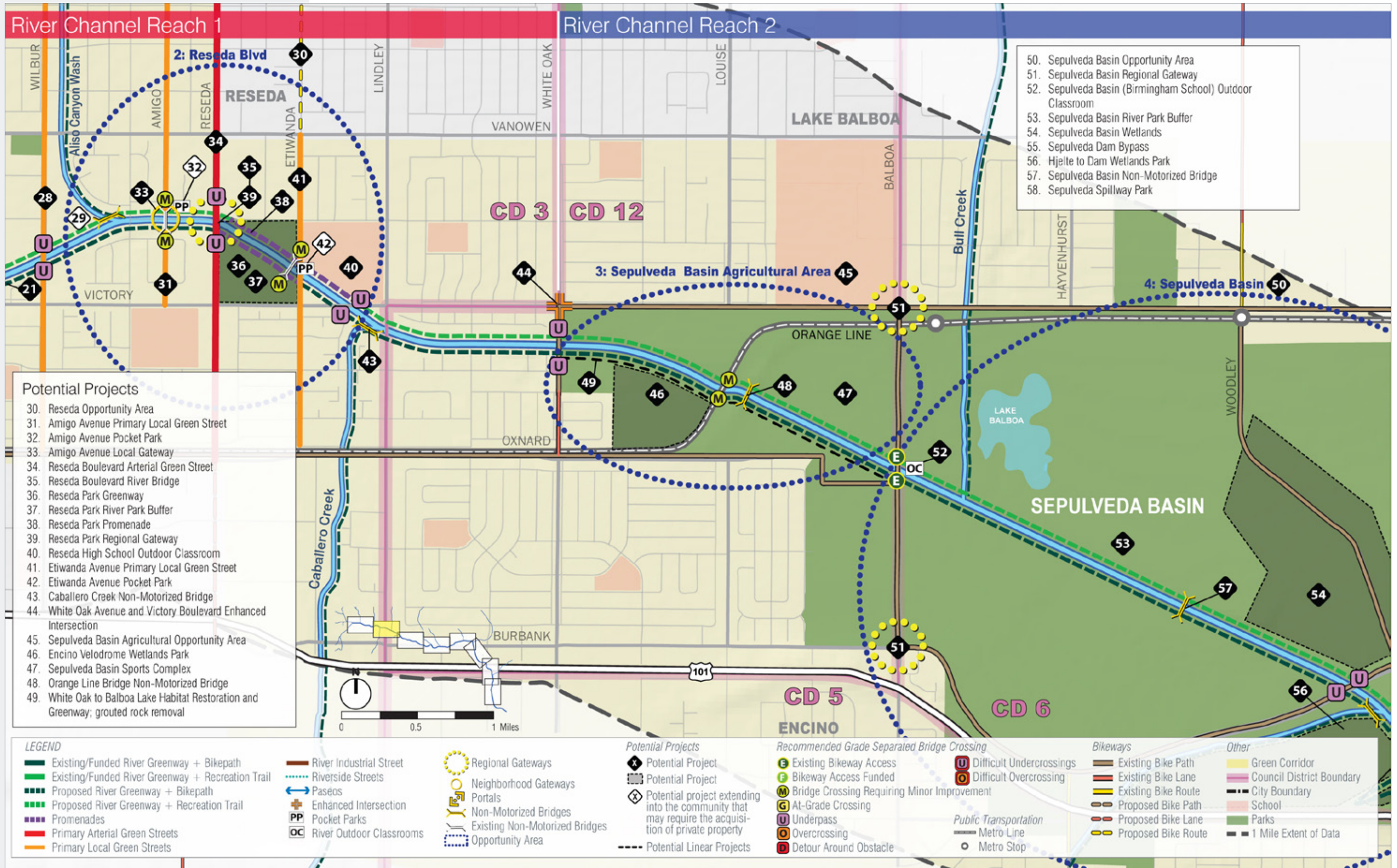
The matrix below summarizes specific funding programs and strategies that may be applicable to implementation of proposals set forth in this Revitalization Master Plan.

FUNDING SOURCE INVENTORY													
Funding Source	Funding Program	Flood Control	Habitat Restoration	Water Quality	Parks	Bikeways, Greenways	Roadways, "Green Streets"	Pedestrian Paths	Bridges	Public Transit	Public Art	Brownfields Cleanup	
<b>Federal Sources</b>													
U.S. Department of Agriculture, Natural Resources Conservation Service	Emergency Watershed Protection Program (Bank stabilization, vegetation restoration)	X	X										
U.S. Army Corps of Engineers	Continuing Authorities Program - Operations and Maintenance	X											
	Continuing Authorities Program - New Projects (Flood Control, Sections 208, 14)	X	X										
	Continuing Authorities Program, Project modification for Environmental Improvement (Section 1135 and Section 206)	X	X		X	X							
Congressionally mandated studies (Construction costs will exceed \$5 million, only authorized by Congress)		X	X		X	X							
		X	X		X	X							
Federal Emergency Management Agency	Flood Mitigation Assistance Program	X											
U.S. Department of the Interior, National Park Service	Land and Water Conservation Fund (Matching grants for acquisition and development of public outdoor recreation areas and facilities)				X								
	Urban Park and Recreation Recovery Program (Matching grants to economically distressed urban communities for rehabilitation of recreation facilities)				X								
U.S. Fish and Wildlife Service	North American Wetlands Conservation Act (Up to \$1 million in matching grants to conserve wetlands and aquatic habitat)		X										
U.S. Environmental Protection Agency	Wetland Program Development Grants (Monitoring and assessment of water quality mitigation programs, improving effectiveness of compensatory mitigation, refining wetland protection strategies)		X	X									
	Brownfields Assessment (Assessment grants are directed toward site assessment and cleanup planning)											X	
U.S. Department of Transportation	SAFETEA (TEA-21 Reauthorization), provides funding for multiple use paths, trails and related projects.					X							
Federal Highway Administration	Federal Highway Administration Bridge Replacement/Rehabilitation (HBRR) project (reauthorized under SAFETEA, FHA pays 75 percent of replacement and modifications)								X				

FUNDING SOURCE INVENTORY													
Funding Source	Funding Program	Flood Control	Habitat Restoration	Water Quality	Parks	Bikeways, Greenways	Roadways, "Green Streets"	Pedestrian Paths	Bridges	Public Transit	Public Art	Brownfields Cleanup	
<b>State Sources</b>													
California Department of Water Resources	Flood Control Project Subventions Program	X	X										
	Proposition 13 (Provides funds for acquisition of easements, to reduce flood hazard and provide habitat protection)	X	X		X								
	Urban Stream Restoration Program	X	X										
	Water Quality, Supply, Coastal Wetlands Purchase/Protection Projects (State Propositions 13, 40, 50)	X	X										
	Groundwater Recharge Feasibility Study and Construction Loans/Grants (Loans and grants for projects that facilitate groundwater recharge)		X	X									
	Proposition 84 (Clean Water, Parks and Coastal Protection Act)		X		X	X		X					
	Proposition 1B (Highway Say, Traffic Reduction, Air Quality and Port Security Bond Act of 2006)						X		X				
Proposition 1C (Housing and Emergency Shelter Trust Fund Act of 2006)					X	X	X	X				X	
Proposition 1E (Disaster Preparedness and Flood Prevention Bond act of 2006)		X	X	X									
California Resources Agency	River Parkways Program (Currently funded under Proposition 50)		X	X	X	X	X	X					
California State Water Resources Control Board	Non-Point Source Program (Chapter 7, Article 2)			X									
	Non-Point Source Implementation Grants (EPA 319 Program)			X									
	Consolidated Grants Program (Grants/loans for programs that reduce, eliminate or prevent non-point source pollution)			X									
	Proposition 84 (Clean Water, Parks and Coastal Protection Act)			X									
California State Wildlife Conservation Board	California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act (Proposition 40) (Funds used for acquisition, easements for habitat restoration projects as well as public access projects that provide wildlife-related recreational opportunities)		X		X	X							
	Cooperative Projects for Public Access (Proposition 50, fundable projects include access roads, trails, boardwalks, interpretive facilities, lake or stream improvements)				X	X	X	X					
	Habitat Enhancement and Restoration Program		X										
	Water Security, Clean Drinking Water, Coastal and Beach Protection Act (Proposition 50)		X										

FUNDING SOURCE INVENTORY												
<i>Funding Source</i>	<i>Funding Program</i>	<i>Flood Control</i>	<i>Habitat Restoration</i>	<i>Water Quality</i>	<i>Parks</i>	<i>Bikeways, Greenways</i>	<i>Roadways, "Green Streets"</i>	<i>Pedestrian Paths</i>	<i>Bridges</i>	<i>Public Transit</i>	<i>Public Art</i>	<i>Brownfields Cleanup</i>
California Coastal Conservancy	Wetlands Program (through the Southern California Wetlands Recovery Project)		X									
	Public Access Grant Program (Fundable projects include stairs, ramps, trails, other accessways)					X		X				
	Urban Waterfront Program (Capital funds and technical assistance)				X	X						
California Department of Fish and Game	Fisheries Restoration Grant Program (Protect and restore coastal salmon and steelhead trout habitat)		X									
California Department of Parks and Recreation	Per Capita Grant Programs (Proposition 40, acquisition and development of local parks and recreational lands)				X	X						
	Recreational Trails Program					X		X				
	Habitat Conservation Fund		X									
	Proposition 1C (Housing and Emergency Shelter Trust Fund Act of 2006)				X	X		X				
	Proposition 84 (Clean Water, Parks and Coastal Protection Act)		X		X	X		X				
<b>Special District and Local</b>												
LA County Flood Control District	Existing property assessments for drainage, local share of flood protection, and operation/maintenance	X										
Metropolitan Water District of Southern California	Financial assistance for projects that reduce dependence on imported water.			X								
City of Los Angeles Bureau of Sanitation	Proposition O		X	X	X	X						
City of Los Angeles	Proposition K (LA for Kids Program)				X	X		X				
<b>Private Sector</b>												
Trust for Public Land	Assistance in acquisition of open lands and potential parklands				X	X						
The Conservation Fund	Assistance in acquisition of open lands and potential parklands		X									
National Fish and Wildlife Foundation	Funds for restoration of riverine habitats		X		X							



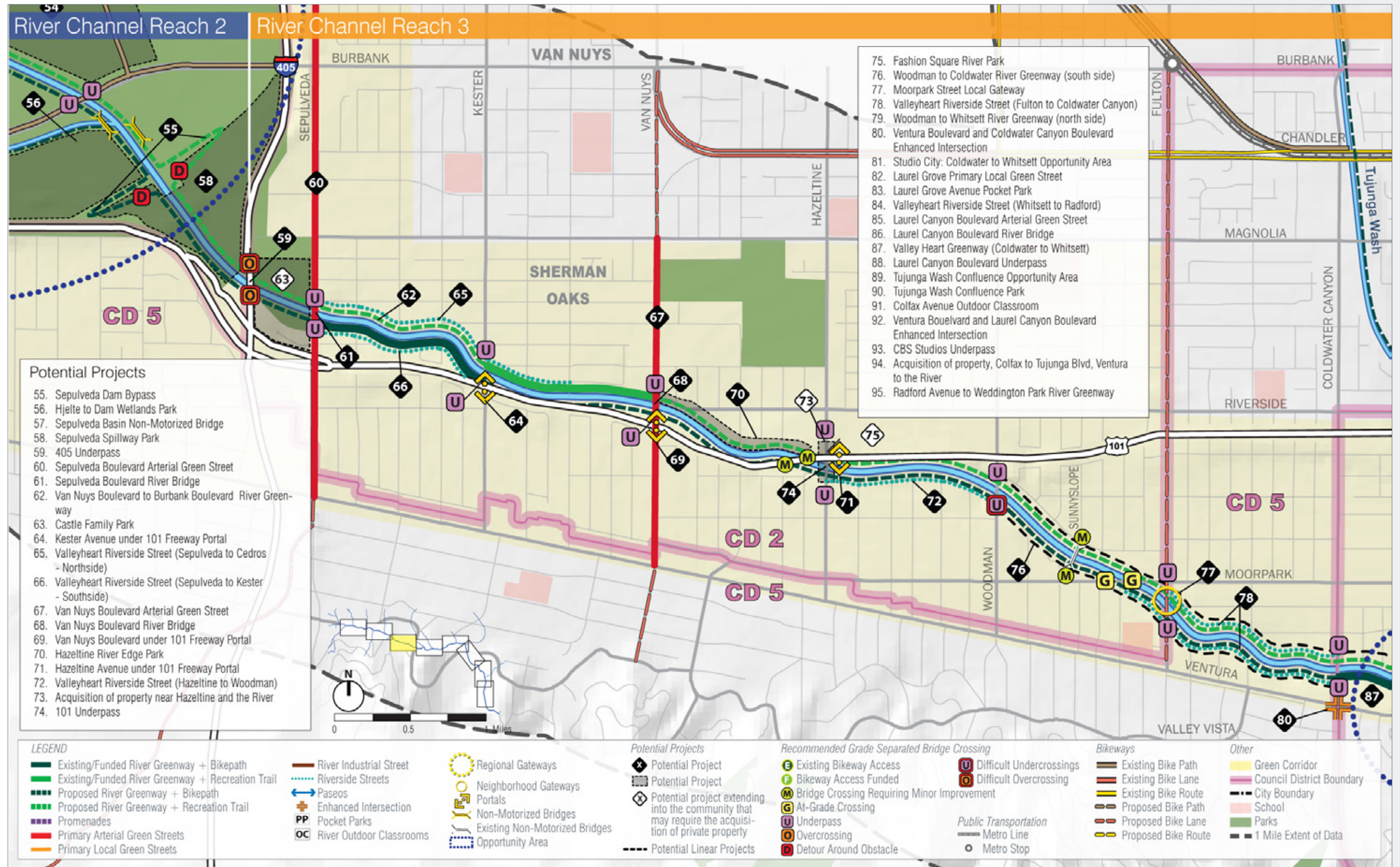


- 50. Sepulveda Basin Opportunity Area
- 51. Sepulveda Basin Regional Gateway
- 52. Sepulveda Basin (Birmingham School) Outdoor Classroom
- 53. Sepulveda Basin River Park Buffer
- 54. Sepulveda Basin Wetlands
- 55. Sepulveda Dam Bypass
- 56. Hjelte to Dam Wetlands Park
- 57. Sepulveda Basin Non-Motorized Bridge
- 58. Sepulveda Spillway Park

- Potential Projects**
- 30. Reseda Opportunity Area
  - 31. Amigo Avenue Primary Local Green Street
  - 32. Amigo Avenue Pocket Park
  - 33. Amigo Avenue Local Gateway
  - 34. Reseda Boulevard Arterial Green Street
  - 35. Reseda Boulevard River Bridge
  - 36. Reseda Park Greenway
  - 37. Reseda Park River Park Buffer
  - 38. Reseda Park Promenade
  - 39. Reseda Park Regional Gateway
  - 40. Reseda High School Outdoor Classroom
  - 41. Etiwanda Avenue Primary Local Green Street
  - 42. Etiwanda Avenue Pocket Park
  - 43. Caballero Creek Non-Motorized Bridge
  - 44. White Oak Avenue and Victory Boulevard Enhanced Intersection
  - 45. Sepulveda Basin Agricultural Opportunity Area
  - 46. Encino Velodrome Wetlands Park
  - 47. Sepulveda Basin Sports Complex
  - 48. Orange Line Bridge Non-Motorized Bridge
  - 49. White Oak to Balboa Lake Habitat Restoration and Greenway; grouted rock removal

**LEGEND**

<ul style="list-style-type: none"> <li>Existing/Funded River Greenway + Bikepath</li> <li>Existing/Funded River Greenway + Recreation Trail</li> <li>Proposed River Greenway + Bikepath</li> <li>Proposed River Greenway + Recreation Trail</li> <li>Promenades</li> <li>Primary Arterial Green Streets</li> <li>Primary Local Green Streets</li> </ul>	<ul style="list-style-type: none"> <li>River Industrial Street</li> <li>Riverside Streets</li> <li>Paseos</li> <li>Enhanced Intersection</li> <li>Pocket Parks</li> <li>River Outdoor Classrooms</li> </ul>	<ul style="list-style-type: none"> <li>Regional Gateways</li> <li>Neighborhood Gateways</li> <li>Portals</li> <li>Non-Motorized Bridges</li> <li>Existing Non-Motorized Bridges</li> <li>Opportunity Area</li> </ul>	<ul style="list-style-type: none"> <li>Potential Project</li> <li>Potential Project</li> <li>Potential project extending into the community that may require the acquisition of private property</li> <li>Potential Linear Projects</li> </ul>	<ul style="list-style-type: none"> <li>Existing Bikeway Access</li> <li>Bikeway Access Funded</li> <li>Bridge Crossing Requiring Minor Improvement</li> <li>At-Grade Crossing</li> <li>Underpass</li> <li>Overcrossing</li> <li>Detour Around Obstacle</li> </ul>	<ul style="list-style-type: none"> <li>Difficult Undercrossings</li> <li>Difficult Overcrossing</li> </ul>	<ul style="list-style-type: none"> <li>Existing Bike Path</li> <li>Existing Bike Lane</li> <li>Existing Bike Route</li> <li>Proposed Bike Path</li> <li>Proposed Bike Lane</li> <li>Proposed Bike Route</li> </ul>	<ul style="list-style-type: none"> <li>Green Corridor</li> <li>Council District Boundary</li> <li>City Boundary</li> <li>School</li> <li>Parks</li> <li>1 Mile Extent of Data</li> </ul>
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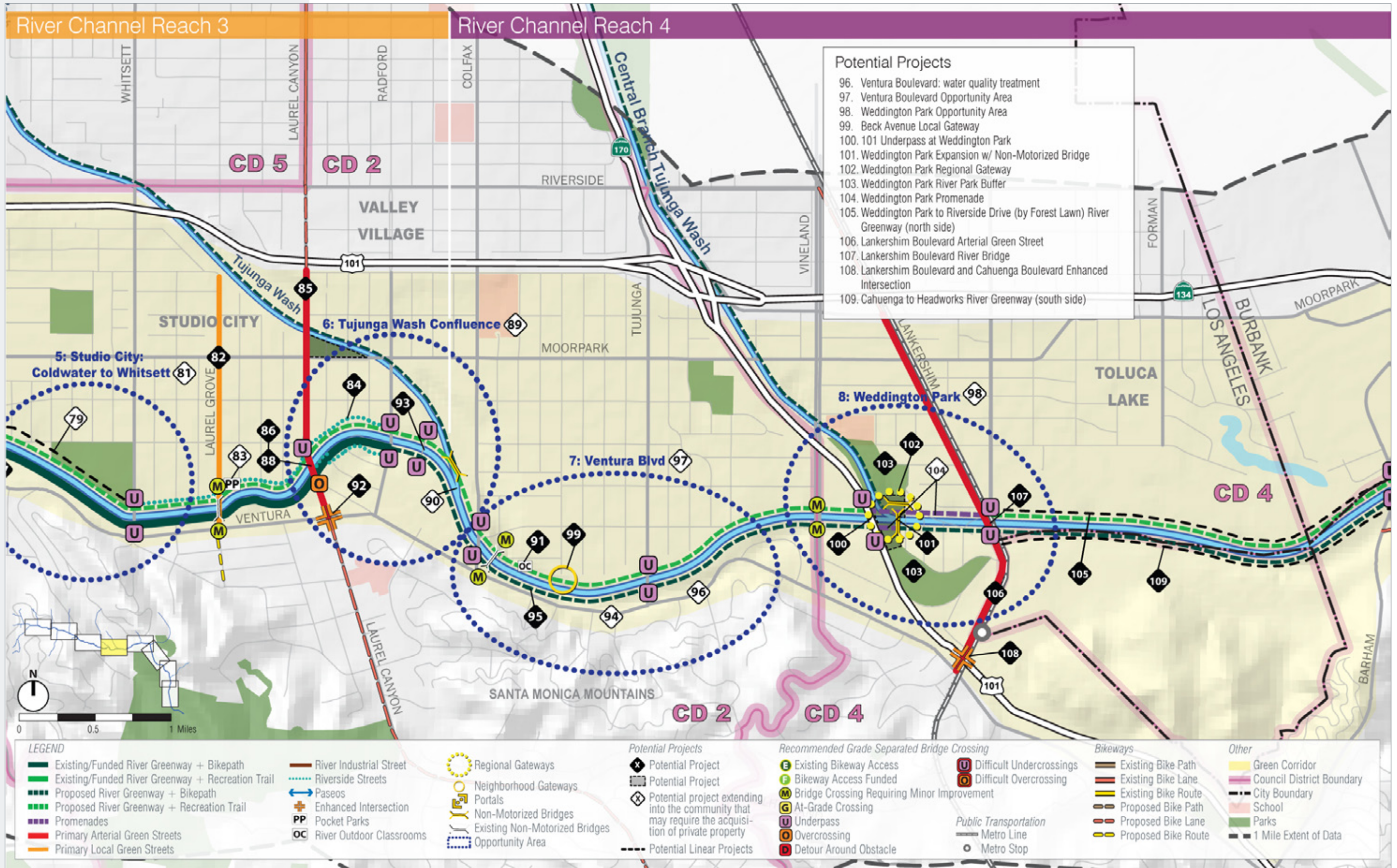


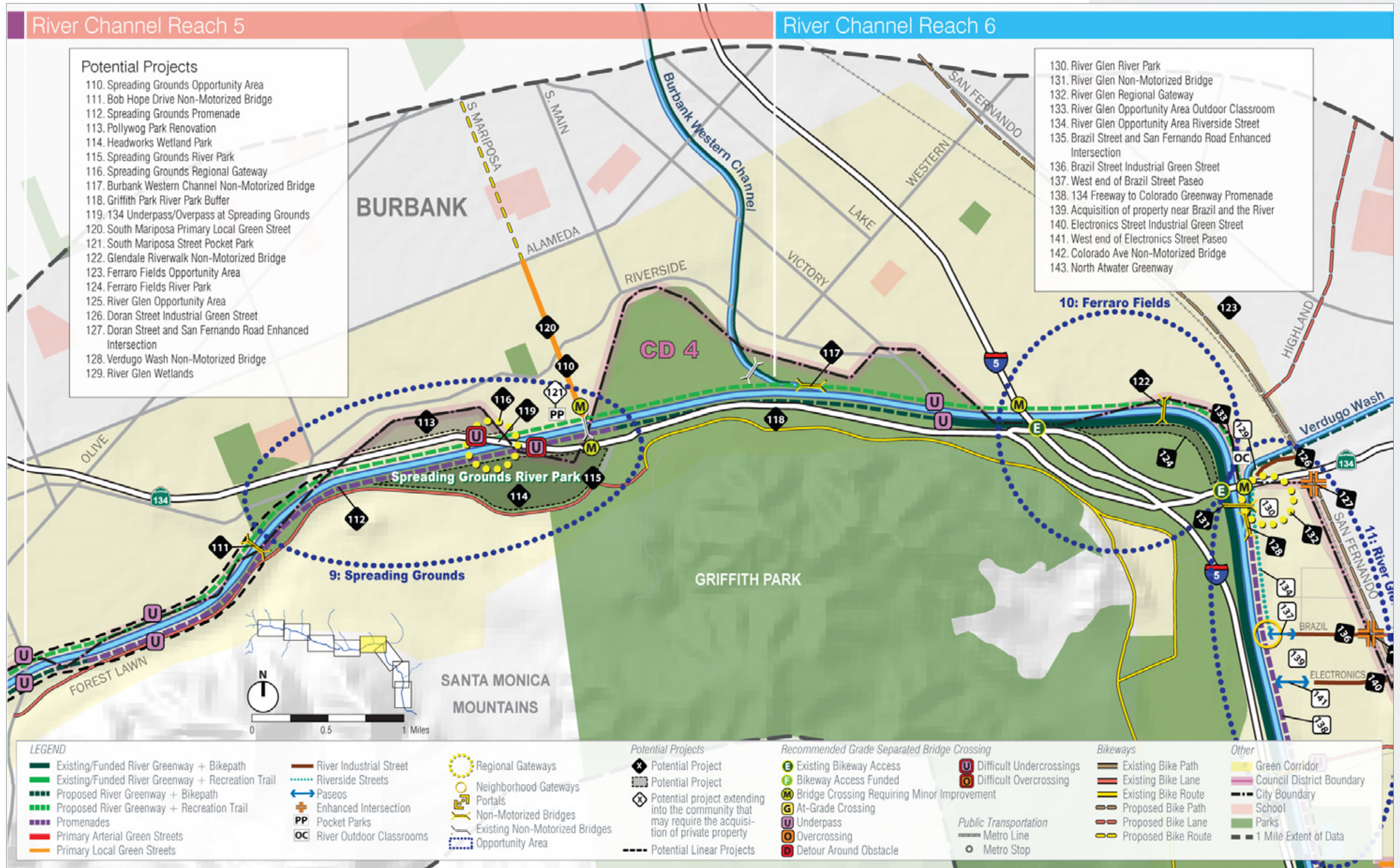
- ### Potential Projects
- 55. Sepulveda Dam Bypass
  - 56. Hjelte to Dam Wetlands Park
  - 57. Sepulveda Basin Non-Motorized Bridge
  - 58. Sepulveda Spillway Park
  - 59. 405 Underpass
  - 60. Sepulveda Boulevard Arterial Green Street
  - 61. Sepulveda Boulevard River Bridge
  - 62. Van Nuys Boulevard to Burbank Boulevard River Greenway
  - 63. Castle Family Park
  - 64. Kester Avenue under 101 Freeway Portal
  - 65. Valleyheart Riverside Street (Sepulveda to Cedros - Northside)
  - 66. Valleyheart Riverside Street (Sepulveda to Kester - Southside)
  - 67. Van Nuys Boulevard Arterial Green Street
  - 68. Van Nuys Boulevard River Bridge
  - 69. Van Nuys Boulevard under 101 Freeway Portal
  - 70. Hazeltime River Edge Park
  - 71. Hazeltime Avenue under 101 Freeway Portal
  - 72. Valleyheart Riverside Street (Hazeltime to Woodman)
  - 73. Acquisition of property near Hazeltime and the River
  - 74. 101 Underpass

- 75. Fashion Square River Park
- 76. Woodman to Coldwater River Greenway (south side)
- 77. Moorpark Street Local Gateway
- 78. Valleyheart Riverside Street (Fulton to Coldwater Canyon)
- 79. Woodman to Whitsett River Greenway (north side)
- 80. Ventura Boulevard and Coldwater Canyon Boulevard Enhanced Intersection
- 81. Studio City: Coldwater to Whitsett Opportunity Area
- 82. Laurel Grove Primary Local Green Street
- 83. Laurel Grove Avenue Pocket Park
- 84. Valleyheart Riverside Street (Whitsett to Radford)
- 85. Laurel Canyon Boulevard Arterial Green Street
- 86. Laurel Canyon Boulevard River Bridge
- 87. Valley Heart Greenway (Coldwater to Whitsett)
- 88. Laurel Canyon Boulevard Underpass
- 89. Tujunga Wash Confluence Opportunity Area
- 90. Tujunga Wash Confluence Park
- 91. Colfax Avenue Outdoor Classroom
- 92. Ventura Boulevard and Laurel Canyon Boulevard Enhanced Intersection
- 93. CBS Studios Underpass
- 94. Acquisition of property, Colfax to Tujunga Blvd, Ventura to the River
- 95. Radford Avenue to Weddington Park River Greenway

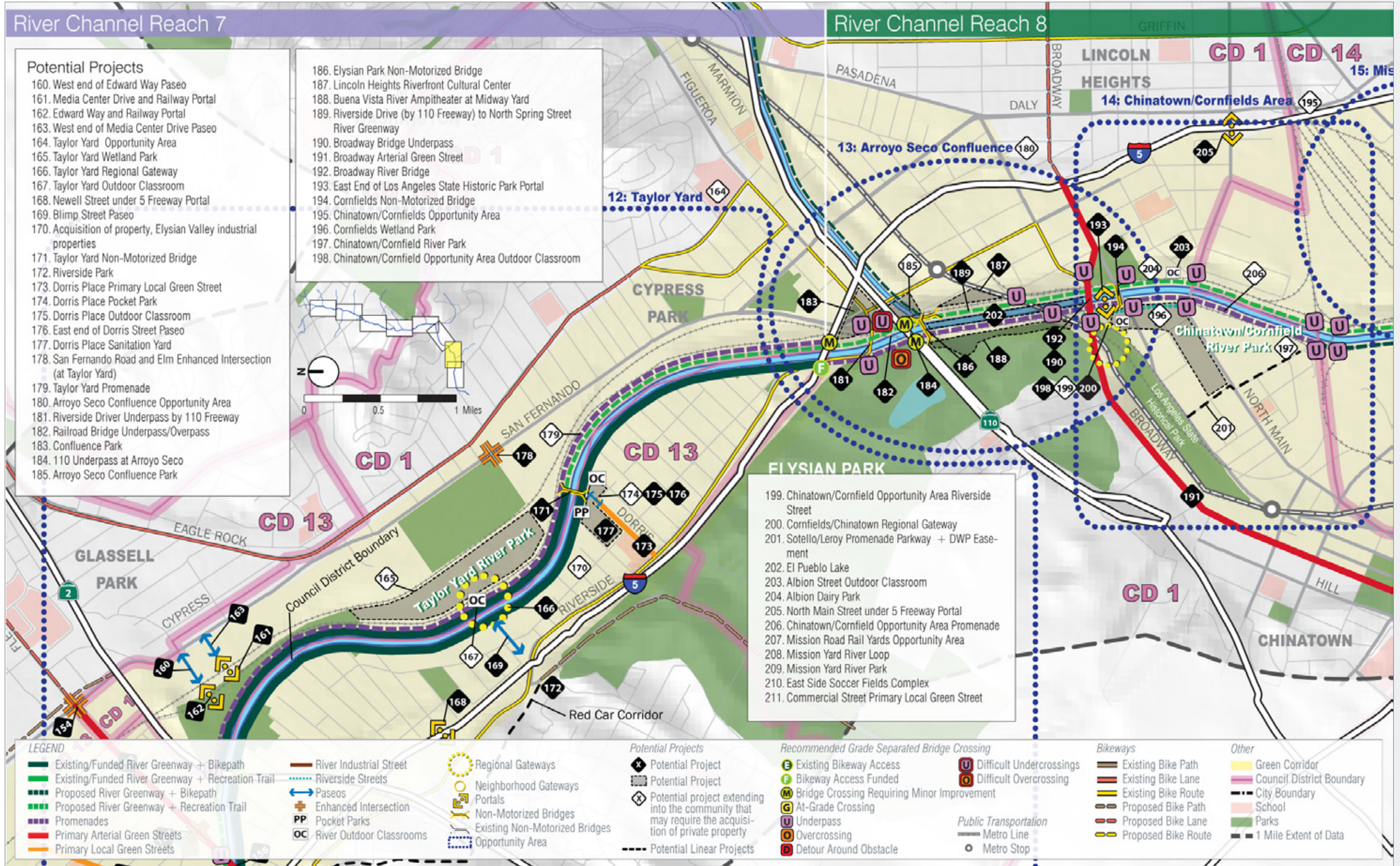
### LEGEND

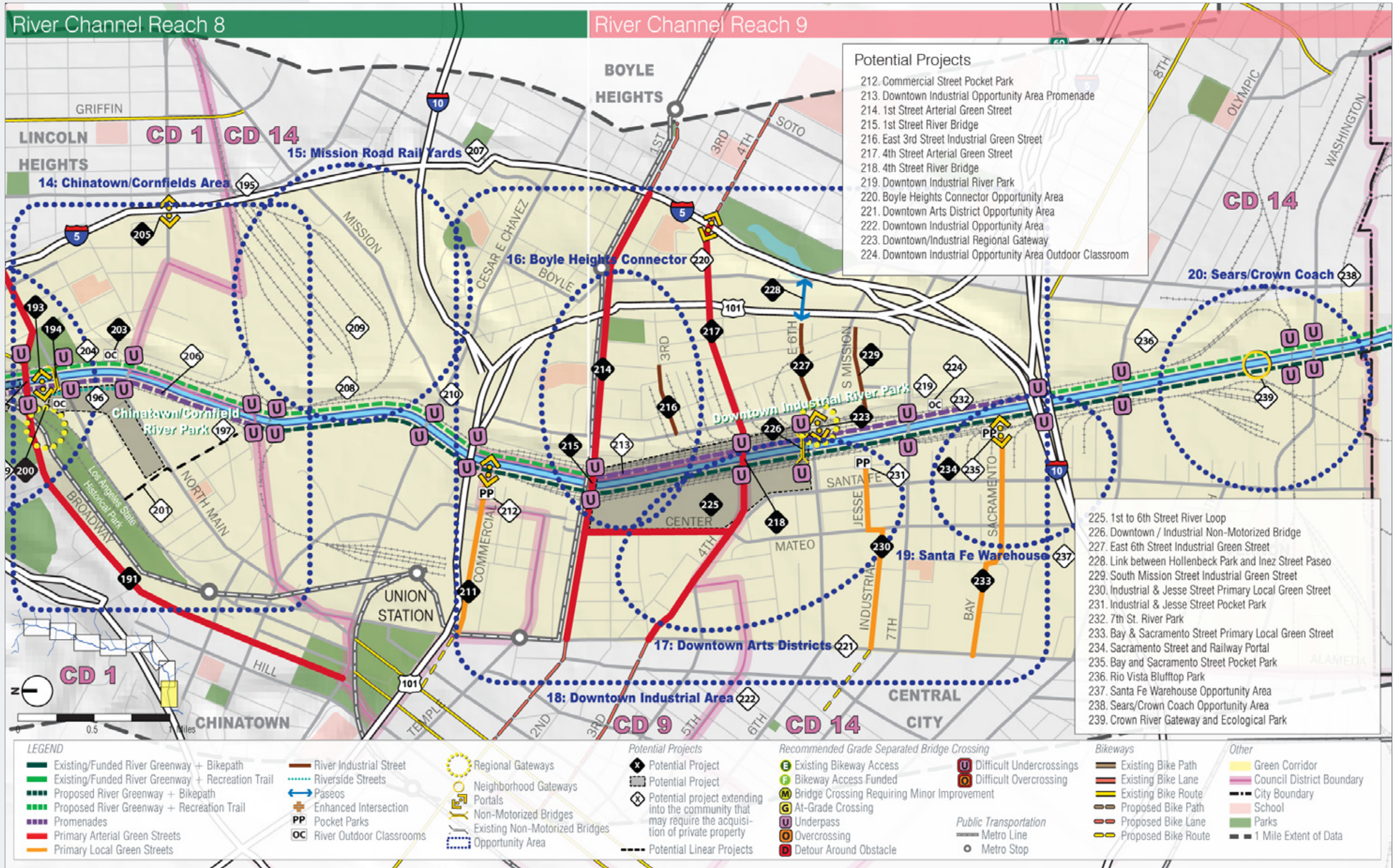
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# GLOSSARY

**Absorption:** The entrance of water into the soil or rocks by all natural processes. alluvium material deposited by running water.

**Alterations of the hydro-regime:** Changes in the characteristic pattern of precipitation, runoff, infiltration, and evaporation affecting a water body.

**Amount of contiguous vegetation:** Areas that are homogenous with respect to the current condition of vegetation; that is, these are plant communities possessing sufficient uniformity in regard to composition and structure to be clearly different from adjacent areas.

**Annual flood:** The highest peak water discharge in a year.

**Aquifer:** One or more geologic formations containing sufficient saturated porous and permeable material to transmit water at a rate sufficient to feed a spring or for economic extraction by a well.

**Artificial recharge:** The deliberate act of adding water to a groundwater aquifer by means of a recharge project. Artificial recharge can be accomplished via injection wells, spreading basins, or in-stream projects.

**Bank :**The margins of a channel.

**Base flow:** Streamflow derived from groundwater seepage into the stream.

**Base runoff:** Sustained or fair weather runoff. In most streams, base runoff is composed largely of groundwater.

**Basin:** The total area of land that drains water to a central stream, river or other water body.

**Belvederes:** An architectural term adopted from Italian (literally “fair view”), which refers to any architectural structure sited to take advantage of such a view. A belvedere may be built, in the upper part of a building, or on a bridge so as to command a fine view.

**Bioengineering:** An applied science that combines structural, biological, and ecological concepts to construct living structures for erosion, sediment, and flood control. It is always based on sound engineering practices integrated with ecological principles.

**Biogeochemical:** Of or relating to the partitioning and cycling of chemical elements and compounds between the living and nonliving parts of an ecosystem

**Biotechnical:** In slope stability engineering, refers to the use of both live plant material and inert structures to stabilize and reinforce slopes.

**BMP’s (Best Management Practices):** Managerial techniques that are recognized to be the most effective and practical means to control pollutants yet are compatible with the productive use of the resource to which they are applied. BMP’s include: reducing paving areas and increasing plant cover, using gray water for irrigation, filter beds, subsurface infiltration basins, green trellises for shade, cisterns for roofs and playgrounds, permeable parking areas, green roofs, cistern walls, green planning, green screens, vegetated creeks/drainage channels, parking orchards, etc.

**Box Culvert:** An covered conduit of rectangular or square shape that passes stormwater runoff, typically under a roadway, bridge embankment, or a river channel.

**Braiding of river channels:** Successive division and rejoining of riverflow with accompanying islands.

**Brownfields:** Abandoned or underused land that was previously contaminated with hazardous waste or pollution from industrial or commercial use, and that has the potential to be reused once it is cleaned up.

**Bulb-outs:** Where the entrance to a street is narrowed at the intersection by extending the curb on either side. These make the pedestrian crossing shorter, force slower turns at corners, and also make the entire street look narrower - and therefore slower.

**Carrying capacity:** The number of mass of organisms of a species that can live in a given area.

**Channel:** An open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of water.

**Channel storage:** The volume of water at a given time in the channel or over the flood plain of the streams in a drainage basin or river reach.

**Civil engineering:** The branch of engineering concerned with the design and construction of such public works as dams or bridges.

**Confluence:** Describes the meeting of two or more bodies of water; usually refers to the point where a tributary joins a more major river.

**Contaminant plume:** A zone of polluted ground water down-gradient from a point source of pollution.

**Cover:** Any object in the stream that provides protection to fish and other animals. Fish use cover to hide, rest, escape and feed.

**Crossing Refuges:** A physical treatment of a crosswalk to make it safer and more convenient for pedestrian travel; may include such elements as crosswalk markings, median refuges, or curb extensions.

**Degradation:** The process by which a stream bed is lowered in elevation by removal or scouring of sediment. This term is also used to refer to a damaged condition of habitat.

**Depletion:** The progressive withdrawal of water from surface or ground water reservoirs at a rate greater than that of replenishment.

**Deposition:** The process of sediment falling out of the water onto the stream bed in areas of lower flow and energy.

**Detention ponds:** Controls flooding by diverting water during peak flow times. Usually placed out of channel. Holds water temporarily, as opposed to Retention pond.

**Direct runoff:** The runoff entering stream channels promptly after rainfall. The terms Ground water runoff and Surface runoff are classifications according to source.

**Discharge:** In its simplest concept discharge means outflow; therefore, the use of this term is not restricted as to course or location, and it can be applied to describe the flow of water from a pipe or from a drainage basin.

**Detrital biomass:** Coarse woody debris

**Diversions:** The taking of water from a stream or other body of water into a canal, pipe, or other conduit.

**Dissolved oxygen:** A measure of the amount of oxygen available for biochemical activity in a water body, and as indicator of the quality of that water.

**Dynamic Surface Storage:** Also referred to as live storage, this is a measure of the volume of above-ground water storage available during major rainfall events.

**Ecosystem:** A dynamic complex of plant, animal, and micro-organism communities and their non-living environment, linked together through nutrient cycling and energy flow and interacting as a functional unit.

**Eddy:** A circular current of water usually formed at a bend or obstruction in the stream.

**Effluent:** Treated wastewater discharged from sewage treatment plants.

**Energy Dissipation:** The loss of kinetic energy of moving water due to internal turbulence, boundary friction, change in flow direction, contraction, or expansion.

**Environmental Justice:** The pursuit of equal justice and equal protection under the law for all environmental statutes and regulations without discrimination based on race, ethnicity, and/or socioeconomic status.

**Ephemeral Flows** - Flows only in direct response to precipitation, and whose channel is at all times above the water table.

**Erosion:** The wearing away of rock or soil and the movement of the resulting particles by wind, water, ice, or gravity.

**Estuary:** The area where fresh and salt water mix at the mouth of a river. Estuaries are important areas that are used as rearing habitat by many fish species and other animals.

**Evapotranspiration:** water withdrawn from a land area by evaporation from water surfaces, moist soil, and plant transpiration.

**Exotic Species:** Non-native plants or animals that have been introduced into areas where they do not naturally occur, mostly by human actions.

**Fish Ladder:** A structure—typically with a series of “steps” or pools—designed to allow fish the opportunity to migrate upstream and continue their function as part of the river ecosystem.

**Flood:** An overflow or inundation that comes from a river or other body of water

**Flood-control storage:** Storage of water in reservoirs to abate flood damage.

**Floodplain:** The lowland that borders a river, usually dry but subject to flooding.

**100 year floodplain:** Those lands that are subject to a one percent or greater chance of flooding in any year.

**Floodway:** A part of the flood plain otherwise leveed, reserved for emergency diversion of water during floods.

**Flow regime:** Quantity, frequency and seasonal nature of water flows.

**Freshet:** A rapid rise in stream flow due to runoff from rain.

**Gabions:** Used in a variety of forms to stabilize slopes. May be in the form of wide mesh baskets containing rocks. May be used with plants.

**Gradient:** The amount that a stream drops in elevation over a distance.

**Green slope stabilizers:** Slope stabilizing methods that involve the use of grass and vegetation.

**Groundwater:** Water in the ground that is in the zone of saturation, from which wells, springs, and ground water runoff are supplied.

**Groundwater runoff:** That part of the runoff which has passed into the ground, has become ground water, and has been discharged into a stream channel as a spring or seepage water.

**Habitat value:** A reflection of habitat's contribution to sustaining the wildlife communities and essential ecological processes of a wider ecosystem.

**Hydrograph:** A graph showing stage, flow, velocity, or other property of water with respect to time.

**Hydrologic budget:** An accounting of the inflow to, outflow from, and storage in, a hydrologic unit, such as a drainage basin, aquifer, soil zone, lake, reservoir, or irrigation project.

**Hydrologic, biogeochemical and Bbiological functional capacity:** Quantified or estimated index that indicates the level of alteration to the wetland hydrologic regime compared to an unaltered condition; typically used in an assessment method called the Hydrogeomorphic Method.

**Hydrology:** The science encompassing the behavior of water as it occurs in the atmosphere, on the surface of the ground, and underground.

**Improvement:** A change or addition that improves, or that makes the previous condition in some manner better.

**Indigenous Ecologies:** Pertaining to plants or animals that are native to a particular region or country.

**Infiltration:** The flow of a fluid into a substance through pores or small openings.

**Infiltration ponds:** Infiltration allows the water to seep into the ground and recharge the ground water. The infiltration rate or how quickly the water enters the ground depends on the type of soil. Sandy soils infiltrate more quickly than gravelly soils. The practicability of infiltration depends on ground water elevations, the depth to bedrock and the infiltration rate.

**Integrated Resources Plan:** A City of Los Angeles document, this plan incorporates a vision of water, wastewater, and runoff management in the City that analyzes and provides alternatives for the relationships that exist among the City's wastewater and stormwater runoff resources and state water quality objectives.

**Integrated Regional Water Management Plan:** A Los Angeles County Department of Public Works document, this Plan addresses major water related objectives and challenges within Los Angeles County as they relate to statewide water resource priorities, including water supply, groundwater management, ecosystem restoration, and water quality.

**Intermittent or seasonal:** Flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas;

**Interspersion:** The spatial arrangement of biotic/abiotic vegetation clusters or patch types within the wetland, especially the degree to which patch types intermingle with each other (e.g. the amount of edge between patches).

**Landscape architecture:** The art of designing the built environment of neighborhoods, towns and cities while also protecting and managing the natural environment, from its forests and fields to rivers and coasts.

**Landscape based filtration techniques:** Methods to capture and treat stormwater from streets, vegetated areas, and other outdoor surfaces to prevent or reduce the impacts of urban runoff.

**Long-term Surface Storage:** This is a measure of the volume of above-ground water storage that exists well-beyond rainfall events, such as within lakes and reservoirs.

**Massing:** Urban planning and design description for integrating the bulk, size, and shape of buildings with their surrounding space, nearby structures, and natural features.

**Meander:** The winding of a stream channel.

**Mechanical Filtration Techniques:** The removal of particulate matter by separating water from solid material, by mechanical processes.

**Multiple benefits:** is a term used in the Revitalization Master Plan to refer to projects that have benefits for a wide variety of issues including but not limited to; water quality, habitat, recreation and open space.

**Natural recharge:** Naturally occurring water added to an aquifer. Natural recharge generally comes from snowmelt and storm runoff.

**Off-channel habitat ponds:** Channels or wetlands that are connected to the main channel of a stream.

**Open Space:** An area of land that is valued for natural processes and wildlife, for agricultural and sylvan production, for active and passive recreation, and/or for providing other public benefits.

**Opportunity:** A favorable or advantageous circumstance or combination of circumstances.

**Outlets/Inlets:** Used to bring water into, or take water away from, the channel.

**Overland flow:** The flow of rainwater over the land surface toward stream channels. After it enters a stream, it becomes runoff.

**Percolation:** The movement, under hydrostatic pressure, of water through the interstices of a rock or soil, except the movement through large openings such as caves.

**Point source:** A source of water pollution that originates from a single point, such as an outflow pipe from a factory.

**Pool:** A deep reach of a stream. The reach of a stream between two riffles. Natural streams often consist of a succession of pools and riffles.

**Potable water:** Water quality that is suitable for drinking.

**Predominant substrate size:** The most common diameter of streambed particles such as clay, silt, sand, gravel, cobble and boulders.

**Primary treatment:** A physical process in which the sewage flow is slowed down in settling tanks or lagoons. The thicker part of the wastewater, the sludge, is then removed from the bottom and disposed of in a variety of ways. Floatable solids, oil and grease are usually skimmed off the surface before the remaining effluent is discharged into a water body.

**Recharge:** To add water to an aquifer; also, the water added to an aquifer.

**Reservoir:** A pond, lake, or basin, either natural or artificial, for the storage, regulation, and control of water.

**Restoration:** A return to a condition that represents or reconstructs an original form (such as with physical structures or facilities). In the case of natural systems and landscape features, this includes but is not limited to: the addition or modification of plant and wildlife habitat to create a more natural state. Restoration projects typically include the planning, design, implementation, monitoring, and reporting that is necessary to ensure that project objectives are successfully met.

**Retention ponds:** Retention facilities or wet ponds create permanent ponds of water. Wet ponds also provide water quality benefits by allowing pollutants to precipitate from the water before discharging into receiving streams.

**Revitalize:** To bring new life or vigor to; to restore to a better state; to refresh or renew -- whether a natural system or a neighborhood or community.

**Riffle:** A rapid in a stream.

**Riffle pool:** A portion of a river or stream that alternates between relatively shallow and deeper water. Riffles describe shallow water where the flow is rippling over gravel deposits or boulders, with pools being deeper and calmer water.

**Riparian:** Pertaining to the banks of a stream. Most often used to describe the vegetation along a stream.

**Riparian habitat:** Natural home for plants and animals occurring on the land bordering a stream or river.

**Rip-rap:** Used for lining banks and as an apron for outlet pipes.

**Run:** Swiftly flowing part of a stream with little surface agitation and no major obstructions.

**Runoff:** That part of the precipitation that appears in surface streams. The part of rain and snowmelt that runs over the ground and into a stream or other water body.

**Scour (Scouring):** Removal of sediment from the stream bed by flowing water.

**Secondary treatment:** Also known as biological treatment, further reduces the amount of solids by helping bacteria and other microorganisms consume the organic material in the sewage. Oxygen is critical to this treatment stage.

**Sediment:** Fragmental material that originates from weathering of rocks and is transported by, suspended in, or deposited by water or air or is accumulated by other natural agencies.

**Sediment delivery:** Contribution of transported sediment to a particular location or part of a landscape.

**Storm:** A disturbance of the ordinary average conditions of the atmosphere which, unless specifically qualified, may include any or all meteorological disturbances, such as wind, rain, snow, hail, or thunder.

**Stream:** A general term for a body of flowing water. In hydrology the term is generally applied to the water flowing in a natural channel as distinct from a canal. Stream gaging is applied to the water flowing in any channel, natural or artificial. Streams in natural channels may be classified as follows in relation to time: perennial (flows continuously), intermittent (flows seasonal)

**Stream order:** A method of numbering streams as part of a drainage basin network. The smallest unbranched mapped tributary is called first order, the stream receiving the tributary is called second order, and so on.

**Subsurface flow:** The flow of water beneath ground surface in hydrology.

**Surface runoff:** That part of the runoff which travels over the soil surface to the nearest stream channel.

**Sustainability:** To keep in existence; maintain; to supply with necessities or nourishment. In recent usage, the term refers to continued viability -- whether from an economic or environmental standpoint -- while minimizing consumption of resources.

**Time of concentration:** The time required for water to flow from the farthest point on the watershed to the gaging station.

**TMDL Total Maximum Daily Load:** A TMDL is an assessment of how much pollution "load" the stream can accept and still meet federal and state water quality standards.

**Traffic calming devices:** Methods used to reduce vehicular speed and volume, and increase the sharing of streets by pedestrians and other users. Generally refers to physical measures and roadway design changes, but enforcement and education can be components.

**Transpiration:** The quantity of water absorbed, evaporated, transpired and used directly in the plant tissue.

**Treatment terraces:** In-channel water quality terraces that treat low flow storm water from storm outfalls before the water is discharged further downstream.

**Tree lawn:** Also called a boulevard, or nature strip. It is a small area, often planted with trees and grass, between a street and the sidewalks of that street.

**Tributary:** A stream that feeds into a larger stream.

**Urban design:** Urban design is the art of making places for people. It includes the way places work, how safety is maintained, and how a place looks. It concerns the connections between people and places, movement and urban form, nature, the overall built environment, and the processes for ensuring successful villages, towns, and cities.

**Watershed:** The topographic divide separating one drainage basin from another. A watershed may be defined as the area within which natural drainage patterns convey surface water flows to a specific low-point destination. The Los Angeles River's watershed encompasses 871 square miles -- an area roughly twice the size of the state of Delaware.

**Wetland:** Land with a wet, spongy soil, where the water table is at or above the land surface for at least part of the year. There are a number of different wetlands indicators (soil type, plants, etc.) that determine whether a piece of land is legally considered a wetland.



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High Schools:  
 Bishop Mora Salesian High School  
 Cals Charter High School  
 Canoga High School  
 Cathedral High School  
 Community Charter High School  
 Compton Unified School District  
 Daily High School  
 Eagle Rock High School  
 Foshay Learning Center  
 Franklin High School  
 Grant High School  
 Holy Family High School  
 John Marshall High School  
 La Salle High School  
 Lincoln High School  
 Manuel Arts High School  
 Pilgrim Day High School  
 Ramona Convent High School  
 Reseda High School  
 Roosevelt High School

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*“There are indeed competing notions of restoration.  
But the river is 51 miles long--and lined with as much possibility as concrete.”*

Editorial, *Rebirth of the L. A. River*, Los Angeles Times October 2, 2006

For more information, contact:

City of Los Angeles, Department of Public Works, Bureau of Engineering

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[www.lariver.org](http://www.lariver.org)

## *The River:*

*“By it and with it and on it and in it...It’s brother and sister to me, and aunts, and company, and food and drink, and (naturally) washing. It’s my world, and I don’t want any other. What it hasn’t got is not worth having, and what it doesn’t know is not worth knowing.*

*Whether in winter or summer, spring, or autumn, it’s always got its fun and its excitements.*

*When the floods are on in February...and the brown water runs by my best bedroom window; or again when it all drops away and shows patches of mud...and the rushes and weed clog the channels...I can potter about dry shod over most of the bed of it and find fresh food to eat, and things careless people have dropped out of boats!”*

Kenneth Grahame, *The Wind in the Willows* (Originally Published 1908)



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