



LOS ANGELES RIVER BIKE PATH GAP CLOSURE
Feasibility Study *May 31, 2016*



EXECUTIVE SUMMARY

Introduction

The purpose of the Los Angeles River Bike Path Gap Closure Feasibility Study (Study) is to determine the feasibility of designing, constructing and operating a bike path along an eight-mile stretch of the Los Angeles River (River) through Downtown Los Angeles and the City of Vernon with a connection to the City of Maywood (Project). The Project would close an existing gap in the LA River Bike Path, providing a seamless bike route between the San Fernando Valley in Los Angeles and the LA River Bike Path in Long Beach. The northern and southern limits of this study are the terminus of the LA River Greenway Trail at Riverside Dr, and Atlantic Bl where the LA River Bike Path begins in Maywood. The Study includes conceptual designs, identification of potential access points, operations strategies, identification of environmental issues, and cost estimates.

The River, which extends 51 miles from Canoga Park to Long Beach, was channelized in the 1930s by the Army Corps of Engineers (Corps) for the primary purpose of flood protection. The result was a concrete-lined channel designed to prevent flooding by rapidly moving rain water and runoff to the ocean.

Over the past several years a number of initiatives have been undertaken by public agencies and non-profits to reimagine the River. Public agency studies include the [Army Corps of Engineers ARBOR Study](#), the [LA River Master Plan](#) and the [LA Bike Master Plan](#). Non-profit groups such as [River LA](#) (formerly LA River Revitalization Corporation) have been

formed with the backing of the City of Los Angeles to help transform the River. This transformation envisions making the River an integral part of the community and includes a regional active transportation corridor for biking and walking. The regional corridor connects portions of coastal and inland Los Angeles County and provides important local connections to places of employment, parks, schools, retail and entertainment venues, as well as mass transit.

In the past 10 to 15 years, in a precursor to the overall River redesign effort, high-quality biking and walking paths have been added along the River in both the coastal and inland areas. **Figure ES-1** shows a typical example of a recent bike/ pedestrian path along the River.



Figure ES-1: LA River Bike Path (South Bay Section)

However, a barrier exists between the coastal and inland areas to date, precluding the envisioned seamless connection between the San Fernando Valley and Long Beach. The eight-mile stretch of River in the Project Area (**Figure ES-2**) transits a largely industrial section of the County where much of the top of bank (where a bike path would normally be placed) is obstructed by electrical towers, bridge structures and active railroad tracks. These obstructions, along with vertical walls on parts of the River, have made creating a bike and pedestrian path along this stretch of the River challenging. **Figure ES-3** shows the obstructed character of the top of bank in the Project Area and illustrates the types of barriers that have prevented the path's completion thus far.

This Study finds that, in spite of the challenges, it is feasible to close this gap, and explores several options for doing so.



Figure ES-3: Image of a highly obstructed section of the River. Obstructions, such as this one near the 101 freeway, have made it difficult to create a bike and pedestrian path along this section of the River.



Figure ES-2: Project Area

Study Background

Community advocates, local agencies and business associations have studied, supported and invested in the completion of a bike path along the stretch of the River as in this Study. Active supporters include The Arts District Los Angeles (ADLA), the City of Los Angeles, the County of Los Angeles, Southern California Association of Governments (SCAG), the Los Angeles County Metropolitan Transportation Authority (Metro) and the Corps.

Their respective efforts are discussed in Chapter 1.

Based on encouragement from the wide variety of communities and organizations supporting this eight-mile path, the Los Angeles City Council and Metro Board of Directors (P&P Item 27) passed related motions in September 2014, directing staff to study alternatives for implementing a bike path along this portion of the River. In response to these motions, this Study was commissioned to address the needs of the communities adjacent to the River by providing them with a safe and convenient transportation option.

Existing Conditions

Much of the 51-mile long River is already served by bike paths; this Project would close the largest remaining gap through the Downtown Los Angeles metropolitan area and the City of Vernon. A 16.5-mile long bike path connects Atlantic Bl in Maywood with Long Beach and the ocean; a 7.25-mile long bike path connects Elysian Valley near Dodger Stadium and Griffith Park to the City of Glendale. By closing this 8-mile gap, the Project would create a continuous 32-mile section of grade-separated bike path along the River from Griffith Park to Long Beach.

Project Area

As illustrated by **Figure ES-2**, this Study focuses on a potential new bicycle facility to fill the gap in the LA River Bike Path between Riverside Dr in Elysian Valley and Atlantic Bl in Vernon and neighboring Maywood.

Many of the neighborhoods in the area surrounding the Project corridor are predominately industrial in nature with high volumes of truck traffic, deteriorated roadways, a lack of sidewalks and street lighting, and multiple at-grade rail crossings. Additionally, there are freight and passenger train movements on tracks adjacent to the River along several segments of the corridor, which inhibit mobility.

There is a population of just over 200,000 people within three miles of the Project Area. The area qualifies as a disadvantaged community based on the median household income of \$31,695, which is well below the county average of \$55,870. Approximately 34% of the area's population lives below the poverty line. People in these neighborhoods routinely walk or use a bike as their primary means of transportation.

According to the 2014 American Community Survey most of the Project Area's population has limited or no access to privately-owned transportation, increasing the demand for alternate modes of transportation, including biking and walking. Of the 70,000 people in the Project Area of working-age, 26% (approximately 18,000) walk, bike or take transit to work. As such, the Project would be of great value to the communities through which it passes.

Study Approach

The Study includes analysis of all feasible options for the LA River Bike Path in the Project Area along the top of bank, channel bottom and channel wall, as well as access points to the path. The study assumes a standard width Class I bikeway on the west bank of the River.

The Study team prepared conceptual design plans, identified technical challenges, opportunities and constraints, and developed assumptions and potential solutions in the following areas:

- > Engineering feasibility
- > Neighborhood connectivity
- > Public safety
- > Environmental
- > Permitting
- > Hydraulic capacity
- > Real Estate (property ownership)
- > Maintenance
- > Cost – for both design and construction

Summary of Findings

The Study concludes that a new bike path along the eight-mile Project corridor is feasible.

Although there are physical constraints, including electrical towers, bridge structures and railroad tracks at the top of bank along the Project corridor, the Study shows these constraints can be overcome through creative engineering solutions. The various Project options discussed in the report range in construction cost from approximately \$200 million to \$320 million, including contingency, planning, engineering and permitting costs.

The solutions involve:

- 1. Top of Bank Paths:** Like many of the existing paths along the River, portions of the eight-mile gap have sections along the top of bank that will accommodate a 12-foot wide bike and pedestrian path. See **Figure ES-4**.

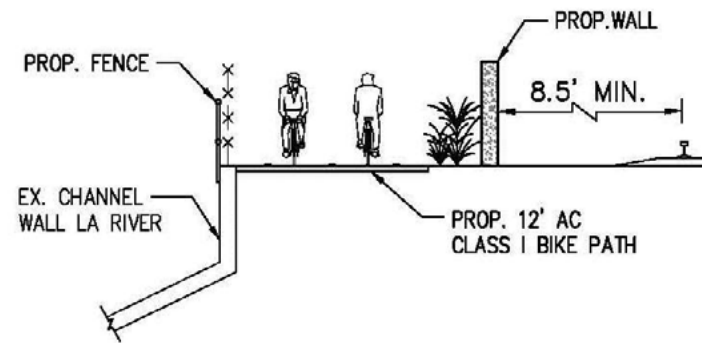


Figure ES-4: Top of bank detail adjacent to rail

- 2. Channel Bottom Bike Paths:** A Channel bottom path would consist of an elevated path six inches above the river bed in the low-flow portion of the River. See **Figure ES-5**. Based on a study commissioned in 2013 by downtown developer Linear City Development, LLC, channel bottom facilities could be open up to 330 days per year.

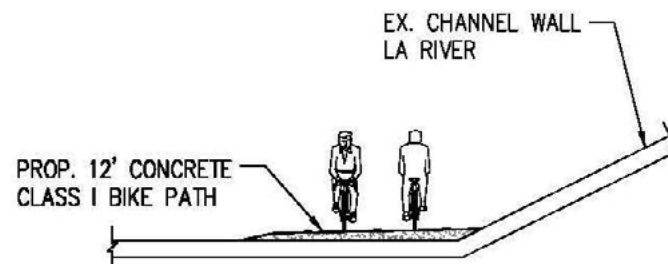


Figure ES-5: Typical Channel Bottom Detail

3. Channel Cut Alignment: This alignment places the path along a terrace cut into the channel wall of the River. See **Figure ES-6**. The terrace would be similar to many of the bridge undercrossings on other bike path facilities in the Los Angeles area.

To manage the assessment effort, the eight-mile path was separated into the following five reaches (segments) from North to South based on the top of bank conditions. These reaches are further described in Chapter 7.

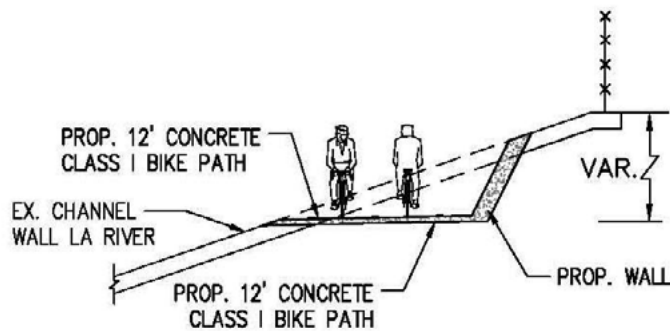


Figure ES-6: Typical Channel Cut Detail

Reach 1: Between Riverside Dr and SR-110: Reach 1 is the shortest and one of the least obstructed reaches with only one bridge crossing (Union Pacific Rail Road), which is located just north of Arroyo Seco Parkway (SR-110). It has a vertically walled channel with available right-of-way along the top of bank.

There are two options for the path along this reach: (1) top of Bank path with an elevated bridge over the railroad crossing, or (2) a ramp immediately south of Riverside Dr leading to a channel bottom alignment. The River in this section has vertical walls, thus a channel cut is not feasible.

Reach 2: Between SR-110 and Spring St: Reach 2, like Reach 1, is relatively short and unobstructed with available top of bank right-of-way except at two locations where there are large electrical towers. The Reach includes the study *Bending the River Back Into the City* by Lauren Bon and Metabolic Studio (**Figure ES-7**) that, once completed, will flood the channel to a depth of approximately eight feet. This reach is approximately 0.6 miles long.

The path can be constructed along the top of bank. However, at two locations cantilevered structures will need to be constructed to detour around electrical towers.

A channel bottom option is precluded as the area will be flooded as part of the study. A floating path, similar to the Esplanade Path in Portland, OR, could be considered, although such a treatment may be difficult due to the hydrologic conditions when the River is in flood conditions with fast-flowing, rough water.

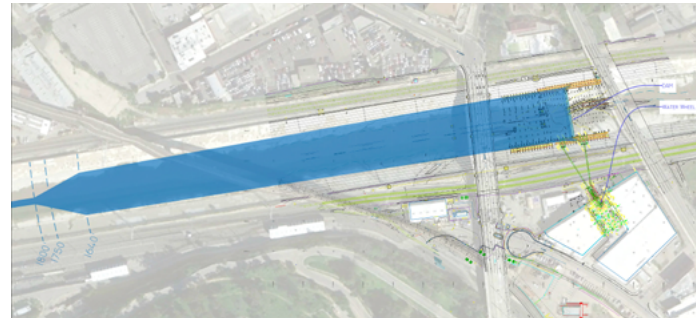


Figure ES-7: Bending the River Back Project

Reach 3: Between Spring St and Cesar Chavez Av: Reach 3 is more complicated than Reach 1 or 2, with four bridge abutments (Main St, Cesar Chavez Av and two railroad crossings) and limited space along the top of bank. This reach is approximately one mile long.

The path in this section could consist of a combination top of bank path with channel cuts to traverse under the bridges at Main, Cesar Chavez and the two railroad crossings.

Reach 4: Between Cesar Chavez Av and Bandini Bl:

Reach 4 is obstructed along the top of bank by electrical towers, bridge abutments, adjacent rail lines, and industrial land usage. This reach is approximately 3.4 miles long.

This is the most complicated and longest reach with over a dozen bridge crossings. The path could consist of a combination of channel cut, channel bottom, elevated structures and cantilevered sections along the river bank.

All of the potential access points in Reach 4 provide connectivity to a dense network of transit, including Union Station, the regional heart of rail for Southern California. The Link US project will greatly improve walking and biking around Union Station and Little Tokyo.

The LA River Bike Path and the Link US project will provide opportunities to connect surrounding communities through walking and biking to this regional transportation hub and the numerous historic and cultural sites neighboring it.

Reach 5: Between Bandini Bl and Atlantic Bl: Reach 5 has extremely limited usable top of bank space, two roadway crossings and one rail road crossing. The top of bank is obstructed by electrical towers, adjacent parallel rail lines, one railroad crossing, and bridge abutments at Downey Rd and Atlantic Bl. This reach is approximately 2.4 miles long and located entirely in the City of Vernon.

Due to the numerous obstructions along the top of bank, the LA River Bike Path would consist of channel cuts, a channel bottom path or cantilevered sections along the river bank.

Details for each of these sections are shown in Chapter 7.

Conclusions: When the Project is completed, the LA River Bike Path will allow people to travel by bicycle between the San Fernando Valley and Long Beach and link to the many communities in between. The Project will provide countywide mobility and much needed low-cost transportation options. It will provide first mile-last mile transportation connections to Metro's bus and rail network. The path will provide greater accessibility to employment, entertainment, commercial, education and recreational centers. The gap closure will complement projects that have already been built or are underway by closing critical gaps in the bike network, and integrating and synchronizing plans for the path. It will reutilize existing infrastructure in an innovative way, resulting in new active transportation options and environmental benefits like reduced greenhouse gas (GHG) emissions and criteria air pollutants, and create opportunities for storm water capture and treatment.

Design, permitting approval and construction of the Project will require close coordination with key agencies and organizational partners. The Corps is responsible for managing and maintaining this portion of the river, and has the ultimate authority over any uses of the River. Close coordination and project buy-in with the Corps, partner agencies and local jurisdictions will be crucial to the success of the Project.

The findings and recommendations in this Study should provide the information needed for decision makers to consider proceeding to the next stage, Preliminary Engineering and Environmental Clearance, in constructing a path that will close the eight-mile gap in the LA River Bike Path. This Study and the more detailed studies to follow will serve as the basis for design to request the requisite permits for closing the eight-mile gap in the LA River Bike Path.