

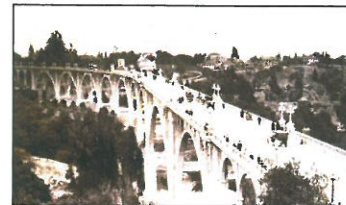
# Los Angeles Civil Engineering Landmarks

Need a break between conference sessions? Want to get out and get some fresh air? The City of Los Angeles and the surrounding area have lots to offer, including several notable Civil Engineering Landmarks. More information on these and other Los Angeles landmarks can be found at [www.ascelasection.org](http://www.ascelasection.org).

## Los Angeles City Hall Completed in 1928 Location: Los Angeles



The first high-rise in Southern California—at 452 feet—City Hall was the tallest building in Los Angeles until 1964. The building's seismic retrofit after the 1994 Northridge earthquake included the largest base isolation project in Southern California.



## Colorado Street Bridge Completed in 1913 Location: Pasadena

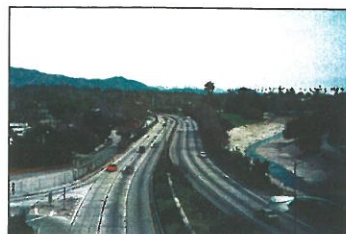
This open spandrel reinforced concrete arch bridge crossing the Arroyo

Seco Parkway is the third longest concrete arch bridge in California. At 1,500 feet long and some 150 feet high, the bridge's main span stretches 153 feet. When built, it was the longest bridge in California and ranked among the tallest in the world. It was first listed on the National Register of Historic Places in 1981.

## Four Level Interchange Completed in 1953 Location: City of Los Angeles



The prototype for modern interchanges on limited-access highways—such as the Interstate System—the Interchange was the first to eliminate the clover-leaf pattern, so that entering and exiting vehicles no longer need to cross paths.



## Arroyo Seco Parkway Designated a National Historic Civil Engineering Landmark in 1999 Completed in 1940 Location: Pasadena, South Pasadena and Los Angeles, Los Angeles County

The first urban freeway in the western United States, and the first freeway to be built as a state highway, the Parkway was the forerunner of many subsequent freeway projects. The Parkway is now known as the Pasadena Freeway.

## Los Angeles Memorial Coliseum Completed in 1923 Location: Los Angeles



The Coliseum was originally constructed as a shallow bowl with 75,000 seats arranged on one tier placed on top of the embankment created by excavating the bowl. In 1931, it was enlarged to 105,000 seats by placing one additional tier of seats on earth fill and another as a supported reinforced concrete structure. The expanded stadium was used to host the Summer Olympic Games both in 1932 and 1984.



## Rose Bowl Completed in 1923 Location: Pasadena

The Tournament of Roses Committee for the annual New Year's Day football game constructed the stadium. Its firsts include the first transcontinental radio broadcast of a sporting event in 1927, the first national telecast of a college football game

in 1952, the first coast to coast color telecast in 1962, and the first satellite TV broadcast to Europe in 1968.

## Port of Los Angeles Completed in 1871 Location: San Pedro Bay, approximately 20 miles south of central Los Angeles



The Main Channel was dredged initially to a depth of ten feet and a breakwater was constructed. By 1912, the first 8,500-foot section of breakwater was completed and the Main Channel was widened to 800 feet and deepened to 30 feet. The Southern Pacific Railroad's first major wharf in San Pedro was completed by 1912. The 18,500-foot middle breakwater and other improvements were completed in 1937.

The Port, which encompasses 7,500 acres, has become dominant in international trade as the biggest and most efficient gateway in North America.



## Los Angeles International Airport (LAX) Completed in 1928 Location: Los Angeles near the south coast of Santa Monica Bay, Los Angeles County

From the initial dirt and oiled runways and two small hangars, this project has grown to become one of the world's busiest passenger and cargo airports, with over 51 million passengers in 1994 and over 1.7 million tons of cargo in 1984.

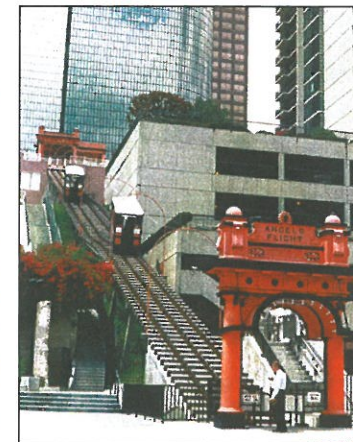
The facility is the first airport to have a major highway—Sepulveda Boulevard/State Highway 1—travel under the runways in a tunnel, and the first airport to utilize the satellite concept. It is also the first commercial airport to be designed for jet aircraft, and the only airport to have four parallel runways comprising two distinct airfields.



## Newport Harbor Designated a California Historic Civil Engineering Landmark Completed in 1936 Location: Newport Bay, Orange County

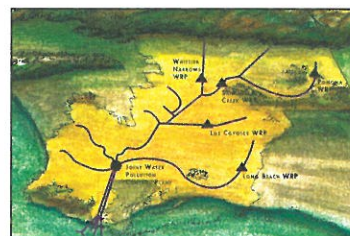
The project represents one of the finest small boat harbors along the Pacific Coast. The Harbor's 9,000 slips and moorings are worth approximately \$1 billion.

## Angel's Flight Completed in 1901 Scheduled to Reopen in 2006 Location: City of Los Angeles



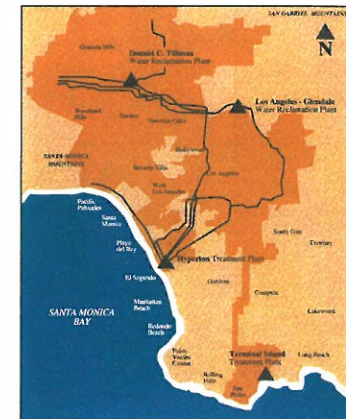
Built on the steep eastern slope of Bunker Hill, a few blocks north of what is now the Los Angeles Civic Center, Angel's Flight was the "world's shortest incorporated railroad" when opened on New Year's Eve in 1901. It is estimated that the Angel's Flight has carried more passengers per mile than any other railroad in the world, with over 100 million in its first 50 years.

In February 1969, Angel's Flight was taken out of service, dismantled and placed in storage for 27 years during the redevelopment of Bunker Hill. It was reconstructed one block south and service resumed in February 1996. However, the railroad closed a few years later due to a tragic accident. It is scheduled to reopen in 2006.



## County Sanitation Districts of Los Angeles County Total Sewer System Completed in 1925 (approximately) Location: Los Angeles County

Passage of the County Sanitation Act in 1923 made possible the joint ownership of facilities and staffing. This led to the organization of the sewerage facilities for 72 cities and unincorporated territories. The County Sanitation Districts of Los Angeles County are a confederation of 26 independent special districts that serve the water pollution control needs of 5 million people within an area of 640 square miles.



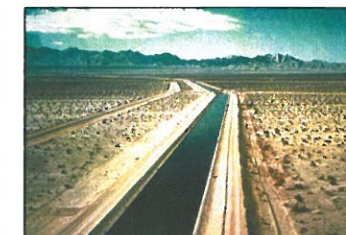
## Los Angeles City Total Sewerage System Location: City of Los Angeles

These facilities serve over four million people in Los Angeles and 29 other contract cities. The system includes over 6,600 miles of sewer pipelines, 29 pumping plants, and four treatment plants, and treats 550 million gallons of wastewater daily.

## County Sanitation Districts of Orange County Completed in 1912 Location: Coastal Orange County



As of 1993, the Districts served 90% of the population of Orange County, approximately 2.1 million people over 470 square miles, with 825 miles of trunk sewers and two treatment plants disposing of 270 million gallons of wastewater per day. Most of the effluent is discharged five miles offshore in 190-foot-deep water.



## Colorado River Aqueduct Designated a National Historic Civil Engineering Landmark in 1994 Completed in 1941 Location: Riverside and San Bernardino Counties

Selected by ASCE in 1955 as one of the "Seven Modern Civil Engineering Wonders of the United States," the Aqueduct was unprecedented in size and scope when completed. At 242 miles long, it includes 92 tunnels, 64 miles of open canals, 54 miles of cut-and cover conduit, 29 miles of siphons, 4 dams, 5 reservoirs and 5 pumping plants that lift 1,608 cubic feet per second through 1,617 feet of elevation.

## Los Angeles County Total Flood Control System Completed in 1980 (Major Facilities) and in 1998 (Additional Storm Drains and Modifications) Location: Los Angeles County south of the San Gabriel Mountains



The total system includes over 20 major dams, 114 debris basins, hundreds of miles of flood control channels and thousands of miles of underground storm drains.

-All photos courtesy of the Los Angeles Section History and Heritage Committee.