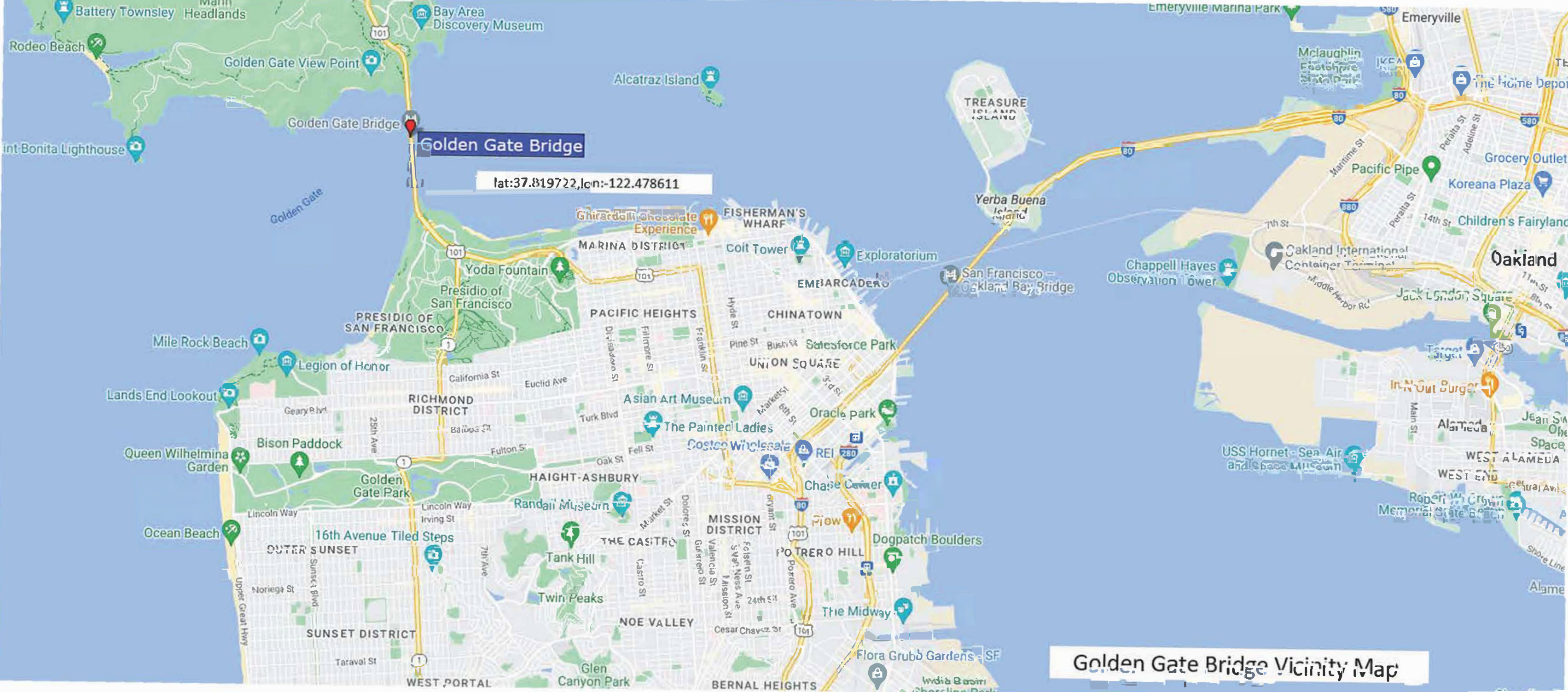




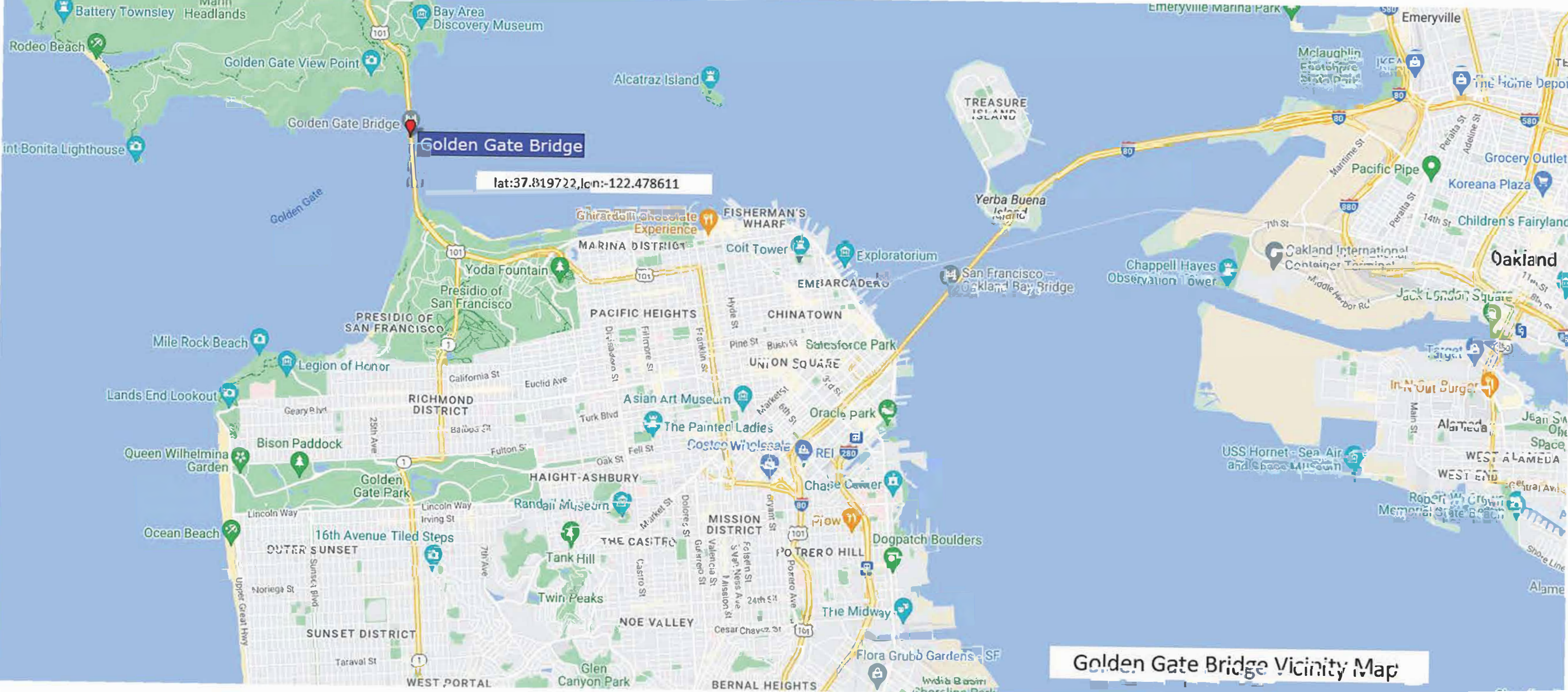
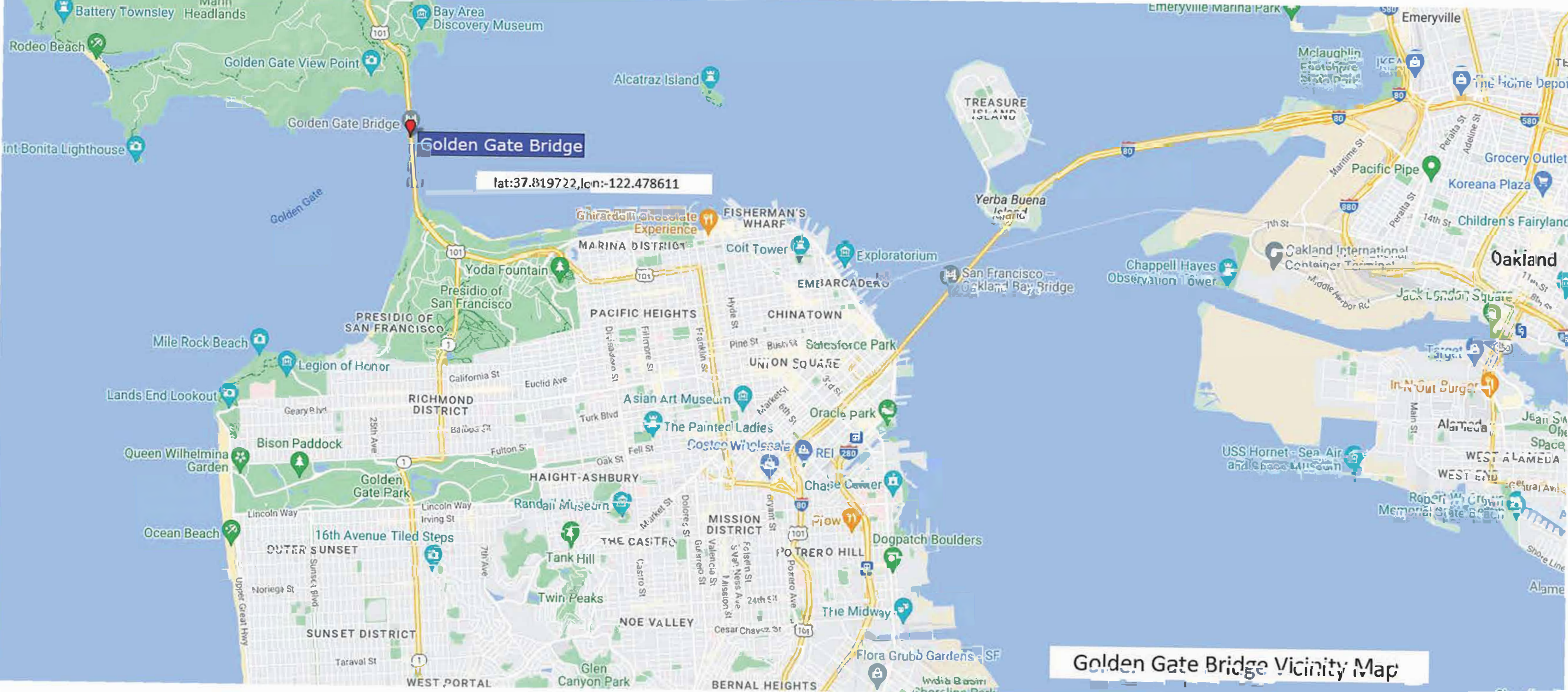
Golden Gate Bridge



# Golden Gate Bridge

lat:37.819722,lon:-122.478611

# Golden Gate Bridge Vicinity Map





# Golden Gate Bridge

**BY: HISTORY.COM EDITORS**

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The Golden Gate Bridge is an iconic structure connecting the city of San Francisco to Marin County, California. It spans almost two miles across the Golden Gate, the narrow strait where San Francisco Bay opens to meet the Pacific Ocean. The dream of connecting San Francisco to its northern neighbors became a reality when construction commenced in 1933. Given a chance for steady employment amid the Great Depression, construction crews braved treacherous conditions as the roadway and towers took shape over open water. The Golden Gate Bridge, which

opened to the public in 1937, has endured as a picture-perfect landmark and an engineering marvel.

## Joseph Strauss

Following decades of public calls to connect the burgeoning metropolis of [San Francisco](#) to its neighbors across the mile-wide Golden Gate, city engineer Michael O'Shaughnessy in 1919 was charged with finding someone capable of constructing a bridge at a reasonable cost.

The job went to a Chicago-based engineer named Joseph Strauss, a drawbridge builder who believed he could complete the grand-scale project for a modest \$25 to \$30 million. After submitting his sketches for a cantilever-suspension hybrid span in June 1921, Strauss set about convincing the communities on the northern end of the strait that the bridge would be to their benefit.

The project gained momentum in May 1923 when the state legislature passed the Golden Gate Bridge and Highway District Act of [California](#) for the purpose of planning, designing and financing construction. By August 1925, the people of Marin, Sonoma, Del Norte and parts of Napa and Mendocino counties had agreed to join the district and offer their homes and businesses as collateral for securing funds.

## International Orange

Despite the economic promises touted by its supporters, the project met fierce resistance from an array of business and civic leaders.

Not only would the bridge impede the shipping industry and mar the bay's natural beauty, they argued, but it also wouldn't survive a temblor like the [San Francisco Earthquake](#) that crippled the city in 1906. Years of litigation followed as opponents sought to block the formation of the district.

Meanwhile, the bridge's famed design took shape through the efforts of Strauss's talented team. Leon S. Moisseiff submitted a plan that scrapped the original hybrid

design in favor of a suspension span capable of moving more than two feet laterally to withstand strong winds.

Irving F. Morrow conceptualized the art deco towers, and later decided on a paint color he dubbed "International Orange." Charles Ellis worked out the complex engineering equations as the primary structural designer, though he was fired before construction began and didn't receive proper credit until many years later.

## **Amadeo Giannini**

In November 1930, a measure was passed to allow the issuance of \$35 million in bonds to pay for the project. However, the Bridge and Highway District struggled to find a financial backer amid the difficulties of the [Great Depression](#), a problem exacerbated by years of expensive legal proceedings.

Desperate, Strauss personally sought help from Bank of America President Amadeo Giannini, who provided a crucial boost by agreeing to buy \$6 million in bonds in 1932.

Construction commenced on January 5, 1933, excavating 3.25 million cubic feet of dirt to establish the bridge's 12-story-tall anchorages. The crew consisted of virtually anyone capable of withstanding the physical rigors of the job, as out-of-work cab drivers, farmers and clerks lined up for the chance to earn steady wages as ironworkers and cement mixers.

The attempt to build what would be the first bridge support in the open ocean proved an immense challenge. As a 1,100-foot trestle extended off the San Francisco side, divers plunged to depths of 90 feet through strong currents to blast away rock and remove detonation debris.

The trestle was damaged when it was struck by a ship in August 1933 and again amid a powerful storm late in the year, setting construction back five months.

## **John A. Roebling's Sons**

When the towers were completed in June 1935, the New Jersey-based John A. Roebling's Sons Company was tapped to handle the on-site construction of the suspension cables.

The Roebling engineers, who had also worked on the [Brooklyn Bridge](#), had mastered a technique in which individual steel wires were banded together in spools and carried across the length of the bridge on spinning wheels.

Given a year to complete the task, they instead finished in just over six months, having spun more than 25,000 individual wires into each 7,650-foot cable.

## Halfway to Hell Club

Despite the ongoing hazardous conditions faced by the crew, the construction produced just one casualty over four years. A supporting net had saved 19 workers from plunging into the strait, the survivors said to be members of the “Halfway to Hell Club.”

However, the near-spotless safety record was blemished when a scaffold fell and tore through the net in February 1937, resulting in the deaths of 10 workers.

The roadway was completed on April 19, 1937, and the bridge officially opened to pedestrians on May 27 of that year. As part of the festivities, Strauss dedicated a poem titled “A Mighty Task Is Done.”

The following day, President [Franklin D. Roosevelt](#) announced that the bridge was open to cars and the rest of the world via [White House](#) telegraph.

## How Long Is the Golden Gate Bridge?

A marvel of modern engineering, the Golden Gate Bridge is 1.7 miles long and 90 feet wide. Its 4,200-foot main span between the two towers was the longest for a suspension bridge until 1964, while its 746-foot towers made it the tallest bridge of any type until 1993.

The Golden Gate Bridge withstood the destructive [Loma Prieta earthquake](#) of 1989 and was closed to traffic only three times in its first 75 years due to weather conditions.

Believed to be the most photographed bridge in the world, this landmark was named one of the seven civil engineering wonders of the United States by the [American Society of Civil Engineers](#) in 1994.