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The Golden Gate Bridge is about to enter the final phases of a major seismic retrofit that should allow the bridge to remain open and functional after a major earthquake. But it could suffer enough damage to close for months or longer — and
repairs to ensure that won't happen are slated to start next year. The bridge's steel elements are designed to move with seismic forces — as much as 27 feet from side to start next year. The bridge's steel elements are designed to move with seismic forces — as much as 27 feet from side to start next year. The bridge's steel elements are designed to move with seismic forces — as much as 27 feet from side to start next year.
disastrous during a 1906-level earthquake. "They won't be moving in sync, and they'll be banging into each other," said John Eberle, an engineer for the Golden Gate Bridge elements to "pop out of alignment," Eberle said. For example, joints
could poke up through the roadway, creating speed bump-like steel hurdles impassable to vehicles. Repairing that damage could take "months if not years of full closure," said bridge district spokesperson Paolo Cosulich-Schwartz. The seismic retrofit expected to begin in January would make the iconic span resilient enough to open to emergency
vehicles within 24 hours and to the public within 72 hours of the Big One, Eberle said. The bridge district plans to award a contract by December for the first of the project's two phases, which in total will cost close to $1.8 billion and take about 10 years to complete. "The Golden Gate Bridge is a lifeline structure, and we are committed to opening up
the bridge after a large-scale event," Eberle said at a seismic commission meeting earlier this year. "That's why the extent of the retrofit is what it is." The bridge lies about 6 miles east of the San Andreas Fault, and would also see shaking from a major quake along the Hayward Fault in the East Bay. The U.S. Geological Survey estimates a 72%
chance of a 6.7-magnitude quake, a 51% chance of a 7.0-magnitude quake and a 20% chance of a 7.5-magnitude quake hitting the Bay Area in the next 30 years. The project is the third and final chapter of a larger retrofit effort that began in 1996 with the viaducts that link the bridge's suspension span to land on either side. This retrofit will focus on
the bridge's two 746-foot towers, the two 1,125-foot side spans north and south of the towers, and the 4,200-foot main span between them. Article continues below this adThe Golden Gate Bridge is seen during a prior seismic retrofit phase. Golden Gate Bridge, Highway and Transportation DistrictA bevy of upgrades is planned to dissipate ground
shaking, including 40-foot-tall steel plates to be affixed to the base of both towers; 38 giant shock absorbers, some weighing more than 26,000 pounds; and a new, stronger steel lattice system undergirding the suspension span. The upgrades will be mostly unnoticeable to the casual eye, though the white-sheathed temporary platform needed to
perform the retrofit will be visible during construction and run underneath the entire span. A close observer peering over the bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few of the shock absorbers. The bridge's edge might spot a few 
tower, which is subject to milder weather conditions, isn't due for repainting yet.) The work will be split into two phases. The first will retrofit the towers and the spans at the bridge's north and south ends over an estimated five years. Bridge leaders have the $870 million needed to fund the phase, between a $400 million federal grant, $200 million
from Caltrans' Highway Bridge Program, and $270 million from the district's reserves. Article continues below this adThe bridge district has yet to begin seeking funding for the second, roughly $900 million phase, which will focus on the main span between the towers and take a projected four additional years. Officials plan to apply for federal and
state grants and do not expect to increase tolls to pay for the work, Cosulich-Schwartz said. Though the bridge will stay open throughout construction, some lanes will mostly occur on weekdays between the hours of 9 p.m. and
5 a.m., similar to during the installation of the bridge's suicide prevention net. Retrofitting the bridge while it withstands daily traffic loads and harsh weather conditions will require precise work. Eberle compared the towers to giant cans of soda — under constant pressure from the immense cables draped over top, which bear the weight of more
than 100,000 vehicles a day. "If you're standing on a Coke can and now you have to put little holes in it and put steel plates on it, you have to do that in a very, very controlled fashion so you don't collapse that Coke can," he said. Article continues below this adThe retrofit also involves installing a new lateral system, the X-patterned steel lattice
undergirding the entire bridge. But workers can't remove the old laterals, which are essential to the bridge's integrity, until the new ones are fully in place. "You have to put in new elements while the old elements remain, so it's intricate work," Eberle said. The 38 giant shock absorbers included in the retrofit are designed to redirect some of the force
an earthquake would otherwise inflict on the already-burdened bridge. During an earthquake, some of the shaking force would be transferred away from the bridge and into a "sacrificial bronze disk" inside the shock absorbers, Eberle said. The shock absorbers are immense — some measure more than 26 feet long — and workers will have to add more
than 800,000 pounds of steel to the towers to support their weight. But without them, the retrofit would have to be even more extensive, Eberle said. The retrofit's complexity in part explains its roughly $1.8 billion bill, but labor laws around lead paint exposure and steel prices driven up by uncertainty around tariffs have contributed, too.Article
continues below this adAuthorities say the retrofit is more than worth the spending. "I know it's a big price tag," Eberle said, "but if you look at what it would take to rebuild the Golden Gate Bridge, you're talking billions and billions of dollars, and years of no good alternate route around the Bay. "Reach Maliya Ellis: maliya.ellis@hearst.com Last
updated: May 22, 2017 If it's your first time visiting San Francisco, seeing the Golden Gate Bridge is probably high on your list, and it should be. It is San Francisco's #1 tourist attraction, and let me assure you that the hype is true. Standing tall with its iconic red towers and sweeping cables against the ocean and city backdrop, it is truly a sight to
see, up close or far away! Being a San Francisco local, I have seen the bridge countless times, I have walked on it, driven on it, seen it from numerous viewpoints, and it still takes my breath away every single time. I can gawk at it for hours and not get tired of it. Well, you can tell by now that I truly love this SF landmark. We are always taking family
and friends to see the bridge when they visit SF. If you are looking for all the inside details on visiting the Golden Gate Bridge, you are in the right place. Read on to find out the best ways to experience the bridge, you are in the right place. Read on to find out the best ways to experience the bridge, you are in the right place. Read on to find out the best ways to experience the bridge, my favorite viewpoints, and practical tips to know before your visit. Me admiring the Golden Gate Bridge at Presidio Tunnel Tops Park
There are several ways to experience the Golden Gate Bridge, and some are better than others depending on how much time you have, your mode of transport, and what kind of experience you're after. You can walk across the bridge, bike over it, drive over it, sit on the upper deck of an open-top bus to let the wind in your hair (more like get your hair
pulled away by the wind!), or gawk at it from one of the several viewpoints. There is no right or wrong way to experience the bridge. However, I think that seeing it from a viewpoint really gives you the full scale of it, rather than being on it. Let's go over each of these in some more detail, with practical information on how to accomplish this. The
easiest way and my favorite way to experience the bridge up close is to walk on it. It's about 1.7 miles one way and takes around 45 minutes to an hour each way, depending on how often you stop for photos. While on the bridge, you'll get amazing views of the San Francisco Bay, Alcatraz Island, and the city skyline. Just keep in mind it can get very
windy and chilly, even in summer. I usually only walk up to the first pillar and back. East sidewalk of the Golden Gate Welcome Center or on the north end of the bridge at the H. Dana Bowers Rest Area &
Vista Point. From either end parking lots, you can easily walk on the bridge. You can also Uber to one of these locations. The San Francisco Hop On Hop Off Bus stops at the northern end parking lot, so that is another convenient option to get down here and walk on the bridge. Biking is a popular and fun way to experience the bridge, especially if you
want to continue on to Sausalito. I have not done this myself, but my family has, and it's super fun. The bike route starts in Fisherman's Wharf, goes up the bridge, and then down to Sausalito and enjoy the views from the water. You will also skip
biking the uphill return from Sausalito. The west sidewalk of the Golden Gate Bridge is reserved for cyclists Keep in mind that the bike route has a lot of incline. The path starts with an uphill climb to get onto the bridge. After that, it's mostly downhill into Sausalito. If you're not a regular cyclist or just want to make things easier, I recommend renting
an electric bike as they make a big difference on the hilly streets of San Francisco. When in Sausalito, stop at Lappert's ice cream for a treat; it's one of my favorite ice cream shops there. - I recommend this Golden Gate Bridge guided bike or e-bike tour from San Francisco to Sausalito - rent an e-bike to make it easier! Recently, I played a tourist in
my own city and rode this open-top bus to go over the Golden Gate Bridge, and let me tell you that it is so windy and fun! My hair was all over the place! Keep a hair tie if you have long hair! Going over the Golden Gate Bridge on the open-top bus to go over the Hop-on, hop-off bus is the easiest way to accomplish this. Then,
as a bonus, you can get down at the north end vista point and walk on the bridge. - This is the San Francisco Hop On Hop Off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend! - Check my detailed review of the hop-on hop-off bus tour I did and recommend to the hop-on hop-off bus tour I did and recommend to the hop-on hop-off bus tour I did and recommend to the hop-on hop-off bus tour I did and recommend to the hop-on hop-off bus tour I did and recommend to the hop-on hop-off bus tour I did and recommend to the hop-on hop-off bus tour I did and recommend to the hop-on hop-off bus tour I did and recommend to the hop-on 
this is one of my go-to attractions to take visiting family and friends. Our Bay cruise passing under the Golden Gate Bridge, and sail right underneath it. You get a totally different view looking up at the massive towers and cables, plus great photo ops from the open-air decks.
It is very windy and chilly on the water, even in the summer, so bring a jacket and a beanie. - I recommend this 1.5-hour sunset bay cruise on a catamaran boat orThis 1-hour basic San Francisco Bay cruise you can choose from basic sightseeing cruises, sunset sails, or even catamaran and sailing boat tours. If you want a relaxing way to see the
bridge, this is a solid option. - Check my detailed write-up here about taking a San Francisco Bay Cruise. Although it is fun to be on the bridge is from a distance to get the full scale of it. Some of the Bridge aren't from the bridge is from a distance to get the full scale of it.
north and south ends of the bridge. You can also see the bridge from various points in the city, but that will be too many to list here. Here are a few viewpoints I always recommend as they give the best views of the bridge for photos. Google Maps Location: Battery Spencer This is my go-to viewpoint when I want to wow out-of-town guests. It offers
that postcard-perfect angle of the bridge with the city behind it. Iconic panoramic view of the Golden Gate Bridge from Battery Spencer viewpoint This viewpoint that parking lots up this road, but I have found that parking can be challenging on weekends. Having a
rental car is the best way to get here. You can also walk here from the rest area on the other side of the bridge, although it will be an uphill walk. Google Maps Location: Vista Point North Golden Gate Bridge seen from North Vista Point (it was foggy that day, so the bridge's red color is not that striking in this picture) For out-of-town tourists who do
not have a rental car, this is the easiest viewpoint to get to as the hop-on on hop-off bus stops here. You can also get here by rideshare like Uber/Waymo/Lyft. From here, you can get a good picture of the scale of the north pillar. You can also get here by rideshare like Uber/Waymo/Lyft. From here, you can get a good picture of the scale of the north pillar. You can also get here by rideshare like Uber/Waymo/Lyft.
Gate Bridge Welcome Center on the south end of the bridge. You can get here by rideshare or by car. Parking is limited, we never seem to get parking here on weekends. So we always end up going to the vista point on the north side, which is a much larger lot. This is an excellent viewpoint if you want to see the bridge from the beach. There are nice
walking paths from Crissy Field all the way to Fort Point. Golden Gate Beach I recommend starting at Presidio Tunnel Tops park overlook, there are nice red chairs here to sit and admire the bridge from walking paths from Crissy Field and walk all the way to Fort Point for a close-up of the bridge. You will also
get to see a lot of windsurfers in the water. Can you think of a better place to relax? (Presidio Tunnel Tops park) Tips for visiting the Golden Gate Bridge Here are a few things I've learned over the years that can help make your visit smoother: Go early or late in the day for fewer crowds: Midday tends to be the most crowded. If you can, go early in the
morning or later in the evening for fewer people and softer light for photos. Weekdays are better: If your schedule allows, go on a weekday. Parking is easier, and it's much less crowded at the viewpoints and walking paths. Dress in layers: Even if it's warm in the city, it can be very windy and chilly on the bridge. Check the pedestrian and bike hours:
The east sidewalk is typically open for pedestrians, and both the east and the west are open to cyclists, but they aren't open 24/7, and schedules can vary depending on the month. Check here for current hours if you're planning to walk or bike. Mind 'Karl' the fog: On really foggy days, the top of the bridge or even the entire bridge might be hidden. If
you want that clear postcard view, try checking a webcam or the forecast before heading out. Be prepared for hills and walking: Whether you're exploring the Presidio, crossing the bridge, or visiting the Marin side, expect some walking and inclines. Wear comfortable shoes and carry water on sunny days. Plan ahead for food: There aren't many food
options right at the bridge. There is a small cafe at the Welcome Center on the south end, but I usually recommend packing snacks or planning a meal nearby, like in the Presidio Tunnel Tops (there are food trucks and a restaurant here), or Sausalito if you're biking across. Lately, I have seen street vendors in the parking lots near the bridge, but I
have never tried them. Restrooms: Restrooms are located at the vista points on both the north and south ends of the Bridge. San Francisco Bay Cruise going under the Golden Gate Bridge Getting to the Solden Gate Bridge. There are no restrooms on the bridge. San Francisco Bay Cruise going under the Golden Gate Bridge Getting to the Bridge Getting to th
recommendations for getting to the bridge to save your valuable vacation time. Hop on hop off bus: Easiest way to get to the bridge from a bay cruise. Rideshare: It is very convenient to use Uber/Waymo/Lyft in San Francisco to get to the various vista
points. Bike Tour: If you enjoy biking, this is a great way to see the bridge and the surrounding areas with a guide. Plus, you can return back on the ferry from Sausalito. Public Transit: You can use the Golden Gate Transit buses from various locations in the city, like Fisherman's Wharf and Union Square. Check here for the bus information. Driving
Least recommended, as parking is extremely limited on the south and north points of the bridge. If you visit on a weekday morning or afternoon, you might have more luck with parking than during the evening or on weekends. Driving over the Golden Gate Bridge? Yes, it's completely free to walk, bike (bike
rental costs to consider if not your own bike), or view the bridge. There's no admission fee or reservation needed for the sidewalks or the viewpoints. The only cost would be for the transport to get here. If you drive southbound into San Francisco, there's an electronic toll (around $9.25 for most cars, no cash accepted). Check here for more
information about toll payment. Some Fun Facts about the bridge I've picked up a few facts over the years that are always fun to share: The bridge first opened in 1937, after around four years of construction. The main span (the distance between the two towers) is 4,200 feet long, once the longest suspension span in the world. The bridge first opened in 1937, after around four years of construction.
color, International Orange, was chosen for visibility in fog and to complement the natural surroundings, and it truly is striking. The fog here is called 'Karl', although I don't get the reference. Occasionally, I have seen clear views around the bridge, with the fog just covering the bridge portion, which is bizarre and amusing! As if the bridge is not in
the mood for pics! See pic below. Golden Gate Bridge in San Francisco! No matter how many times I've visited, it's always a treat to see
the Golden Gate Bridge. Whether you're walking across it, catching a glimpse from one of the viewpoints, or sailing underneath it on a bay cruise, there's something special about seeing this iconic landmark of San Francisco up close. However you decide to experience it, make sure to take a moment and soak it all in! It's one of those classic San
Francisco moments you'll remember. Anu Agarwal Anu Agarwal is the owner and author of travel blog - My California Travels. Being a California travel blog, she shares her experiences, itineraries, and travel tips to inspire your next
California adventure! (CNN) — Here's a look at the Golden Gate Bridge in San Francisco. It is a suspension bridge that crosses the Golden Gate, a strait that leads to the San Francisco Bay. The total weight of the bridge is 887,000 tons. There are two towers that hold up the two steel cables anchoring the bridge. Also, there are approximately 80,000 tons.
miles of wire inside each of the two steel cables. The towers stand 746 feet above the water and 500 fe
feet each. Street level is about 220 feet above the water. The color is called "International Orange." The bridge has an advanced security system with motion detectors and security system with motio
the land feature and not its color.1916 - James H. Wilkins comes up with the idea to connect northern California to the San Francisco peninsula. December 1924 - The United States War Department, the government entity responsible for the entire area surrounding the strait, approves the project. 1928 - The Golden Gate Bridge and Highway District is
formed and Joseph B. Strauss is appointed as architect/designer. January 5, 1933 - Construction begins. May 27, 1937 - The bridge is opened to vehicles. August 7, 1937 - World
War I veteran Harold Wobber, the first bridge suicide, purportedly says, "This is where I get off,' and then jumps to his death. 1939 - A safety railing to prevent suicide sign by Strauss called for fencing over five feet as to be "practically suicide-proof." Architect Irving Morrow changed that and lowered the
railing.August 9, 2002 - California's Office of Homeland Security alerts the FBI after receiving an anonymous tip that terrorists plan to crash a U.S. military plane into the bridge. May 8, 2012 - Opening of the Golden Gate Bridge Pavilion. April 2017 - Two Wisconsin teens climb the north tower without being noticed by security. Officials are unaware of
the events until weeks later when the teens uploaded a video of their climb to YouTube July 1, 2019 - District tolls and fares increase for drivers crossing into San Francisco. Toll increases will continue through 2023 in order to help reduce the Golden Gate Bridge, Highway and Transportation District's $75 million budget shortfall. June 27, 2025 - The
Golden Gate Bridge, Highway and Transportation District votes to remove diversity, equity and inclusion language in policy documents in order to comply with the Trump administration's new funding rules. The district is relying on a $400 million federal grant to be used to retrofit the bridge. The-CNN-Wire™ & © 2025 Cable News Network, Inc., a
Warner Bros. Discovery Company. All rights reserved. The Golden Gate Bridge is a suspension bridge spanning the Golden Gate Bridge is a suspension bridge spanning the Golden Gate, the one-mile-wide (1.6 km) strait connecting San Francisco Peninsula—to Marin County,
carrying both U.S. Route 101 and California State Route 1 across the strait. It also carries pedestrian and bicycle traffic, and is designated as part of U.S. Bicycle Route 95. Recognized by the American Society of Civil Engineers as one of the Wonders of the Modern World, [7] the bridge is one of the most internationally recognized symbols of San
Francisco and California. Golden Gate BridgeView from the Presidio of San Francisco, 2017Coordinates37°49′11″N 122°28′43″W / 37.81972°N 122.47861Carries6 lanes of US 101 / SR 1 (see § Traffic)Bicycle route: USBR 95Eastern walkway: pedestrians or bicycles during selected hours (see § Usage and tourism)Western
walkway: bicycles (only when pedestrians are allowed on the eastern sidewalk)CrossesGolden Gate Bridge Maintained byGolden Gat
truss arch & truss causewaysMaterialSteelTotal length8980 ft,[2] about 1.70 mi (2.74 km)Width90 ft (27.4 m)Height746 ft (227.4 m)Longest span4200 ft,[3] about 0.79 mi (1.27 km)Clearance above14 ft (4.3 m) at toll gatesClearance below220 ft (67.1 m) at high tideHistoryArchitectIrving MorrowEngineering design byJoseph Strauss, Charles Ellis,
Leon Solomon MoisseiffConstructed byBarrett and HilpConstruction endApril 19, 1937 (1937-04-20) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate, cash not accepted Effective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak or pay-by-plate Affective July 1, 2025 - June 30, 2026 (2025-07-100) [4] Toll Southbound only FasTrak 
01 - 2026-06-30): $9.75 (FasTrak users) $1.00 (Pay-by-plate users) $7.75 (carpools during peak hours, FasTrak only) California Historical LandmarkDesignatedMay 21, 1999[6]Reference no.222 Location The idea of a fixed link between San Francisco and Marin had
gained increasing popularity during the late 19th century, but it was not until the early 20th century, but it was not until the early 20th century that such a link became feasible. Joseph Strauss served as chief engineer for the project, with Leon Moisseiff, Irving Morrow and Charles Ellis making significant contributions to its design. The bridge opened to the public on May 27, 1937,[8] and has
undergone various retrofits and other improvement projects in the decades since. The Golden Gate Bridge is described in Frommer's travel guide as "possibly the most beautiful, certainly the most beautiful the most 
held until 1964 and 1998 respectively. Its main span is 4,200 feet (1,280 m) and its total height is 746 feet (227 m).[11] Further information: Ferries of San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built, the only practical short route between San Francisco Bay Before the bridge was built at the bridge
began as early as 1820, with a regularly scheduled service beginning in the 1840s for the purpose of transporting water to San Francisco.[12] In 1867, the Sausalito Land and Ferry Company opened. In 1920, the service was taken over by the Golden Gate Ferry Company, which merged in 1929 with the ferry system of the Southern Pacific Railroad,
Terminal in Marin County took approximately 20 minutes and cost $1.00 per vehicle prior to 1937, when the price was reduced to compete with the new bridge to connect San Francisco to Marin County. San Francisco was the largest American
city still served primarily by ferry boats. Because it did not have a permanent link with communities around the bay, the city's growth rate was below the national average.[17] Many experts said that a bridge could not be built across the 6,700-foot (2,000-metre) strait, which had strong, swirling tides and currents, with water 372 ft (113 m) deep[18]
at the center of the channel, and frequent strong winds. Experts said that ferocious winds and blinding fogs would prevent construction and operation. [17] Golden Gate was not new, the proposal that eventually took hold was made in a 1916 San Francisco
Bulletin article by former engineering student James Wilkins.[19] San Francisco's City Engineer estimated the cost at $100 million (equivalent to $2.9 billion in 2024), and impractical for the time. He asked bridge engineer and poet who had, for his
graduate thesis, designed a 55-mile-long (89 km) railroad bridge across the Bering Strait. [20] At the time, Strauss had completed some 400 drawbridges—most of which were inland—and nothing on the scale of the new project. [3] Strauss had completed some 400 drawbridges—most of which were inland—and nothing on the scale of the new project.
 segment, which Strauss promised could be built for $17 million (equivalent to $491 million in 2024).[12] A suspension-bridge design was chosen, using recent advances in bridge faced opposition, including litigation, from many
sources. The Department of War was concerned that the bridge would interfere with ship traffic. The US Navy feared that a ship collision or sabotage to the bridge could block the entrance to one of its main harbors. Unions demanded guarantees that local workers would be favored for construction jobs. Southern Pacific Railroad, one of the most
powerful business interests in California, opposed the bridge as competition to its ferry fleet and filed a lawsuit against the project, leading to a mass boycott of the Secretary of War in a request to use federal land for construction
Deakyne, on behalf of the Secretary of War, approved the transfer of land needed for the bridge structure and leading roads to the "Bridging the Golden Gate Association" and both San Francisco County, which supported the
development of roads and bridges to increase demand for automobiles.[15] The bridge's name was first used when the project was initially discussed in 1917 by M.M. O'Shaughnessy, city engineer of San Francisco, and Strauss. The name became official with the passage of the Golden Gate Bridge and Highway District Act by the state legislature in
1923, creating a special district to design, build and finance the bridge. [24] San Francisco and most of the counties along the North Coast of California joined the bridge's construction and the traffic it would generate. [25] South tower seen from
walkway, with Art Deco elements Strauss was the chief engineer in charge of the overall design and construction of the bridge project.[17] However, because he had little understanding or experience with cable-suspension designs, [26] responsibility for much of the engineering and architecture fell on other experts. Strauss's initial design proposal
(two double cantilever spans linked by a central suspension segment) was unacceptable from a visual standpoint. [21] The final suspension design was conceived and championed by Leon Moisseiff, the engineer of the Manhattan Bridge in New York City. [27] Irving Morrow, a relatively unknown residential architect, designed the overall shape of the
ships.[17][28] Senior engineer Charles Alton Ellis, collaborating remotely with Moisseiff, was the principal engineer of the project.[29] Moisseiff produced the basic structural design, introducing his "deflection theory" by which a thin, flexible roadway would flex in the wind, greatly reducing stress by transmitting forces via suspension cables to the
bridge towers.[29] Although the Golden Gate Bridge design has proved sound, a later Moisseiff design, the original Tacoma Narrows Bridge, collapsed in a strong windstorm soon after it was completed, because of an unexpected aeroelastic flutter.[30] Ellis was also tasked with designing a "bridge within a bridge" in the southern abutment, to avoid
the need to demolish Fort Point, a pre-Civil War masonry fortification viewed, even then, as worthy of historic preservation. He penned a graceful steel arch spanning the fort and carrying the roadway to the bridge's southern anchorage. [31] Below Golden Gate Bridge Ellis was a Greek scholar and mathematician who at one time was a University of
Illinois professor of engineering despite having no engineering de
the time.[32] Ellis did much of the technical and theoretical work that built the bridge, but he received none of the credit in his lifetime. In November 1931, Strauss fired Ellis and replaced him with a former subordinate, Clifford Paine, ostensibly for wasting too much money sending telegrams back and forth to Moisseiff.[32] Ellis, obsessed with the
project and unable to find work elsewhere during the Depression, continued working 70 hours per week on an unpaid basis, eventually turning in ten volumes of hand calculations.[32] With an eye toward self-promotion and posterity, Strauss downplayed the contributions of his collaborators who, despite receiving little recognition or compensation,
[26] are largely responsible for the final form of the bridge. [32] Only much later were the contributions of the others on the design and vision of the bridge. [32] In May 2007, the Golden Gate Bridge District issued a formal report on 70
years of stewardship of the famous bridge and decided to give Ellis major credit for the design of the bridge and Highway District, authorized
by an act of the California Legislature, was incorporated in 1928 as the official entity to design, construct, and finance the Golden Gate Bridge.[17] However, after the Wall Street Crash of 1929, the District was unable to raise the construction funds, so it lobbied for a $30 million bond measure (equivalent to $549 million today). The bonds were
approved in November 1930,[20] by votes in the counties affected by the bridge.[33] The construction budget at the time of approval was $27 million ($508 million today). However, the District was unable to sell the bonds until 1932, when Amadeo Giannini, the founder of San Francisco-based Bank of America, agreed on behalf of his bank to buy the
entire issue in order to help the local economy.[12] Construction began on January 5, 1933.[12] The project cost more than $35 million under budget (equivalent to $29.8 million in 2023).[36] The Golden Gate Bridge construction project was carried out by
the McClintic-Marshall Construction Co., a subsidiary of Bethlehem Steel Corporation founded by Howard H. McClintic and Charles D. Marshall, both of Lehigh University. An original rivet replaced during the seismic retrofit after the 1989 Loma Prieta earthquake. A total of 1.2 million steel rivets hold the bridge's two towers together. Strauss
remained head of the project, overseeing day-to-day construction and making some groundbreaking contributions. A graduate of the University of Cincinnati, he placed a brick from his alma mater's demolished McMicken Hall in the south anchorage before the concrete was poured. Strauss also innovated the use of movable safety netting beneath the
200-foot (61 m) fall into the water.[37][38] The Round House Café diner was then included in the southeastern end of the Golden Gate Bridge, adjacent to the tourist plaza which was renovated in 2012.[39] The Round House Café, an Art Deco design by Alfred Finnila completed in 1938, has been popular throughout the years as a starting point for
various commercial tours of the bridge and an unofficial gift shop. [40] The diner was renovated in 2012[39] and the gift shop was then removed as a new, official gift shop has been included in the adjacent plaza. [40] During the bridge as well as a new, official gift shop has been included in the adjacent plaza.
as half of the bridge's road work.[41] Plaque of the major contributors to the Golden Gate Bridge Company Anchorages - Barrett & Hilp Structural steel - Main span - Bethlehem Steel Company Incorporated Approach steel - J.H. Pomeroy &
Company Incorporated - Raymond Concrete Pile Company Cables - John A. Roebling's Sons Company Presidio Approach Roads and Viaducts - Easton & Smith Toll Plaza - Barrett & Hilp Engineering staff Chief engineer - Joseph B. Strauss
Principal assistant engineer - Clifford E. Paine Resident engineer - Charles Clarahan Jr., Leon S. Moisseiff Consulting traffic engineer - O.H. Ammann, Charles Derleth Jr., Leon S. Moisseiff Consulting traffic engineer - Sydney W. Taylor Jr. Consulting architect - Irving F. Morrow Consulting geologist - Andrew C. Lawson,
Allan E. Sedgwick Directors San Francisco - William P. Filmer, Richard J. Welch, Warren Shannon, Hugo D. Newhouse, Arthur M. Brown Jr., John P. McLaughlin, William P. Francisco - William P. Francis V. Keesling, William P. Stanton, George T. Cameron Marin County - Robert H. Trumbull, Harry Lutgens Napa County - Thomas Maxwell Sonoma
County - Frank P. Doyle, Joseph A. McMinn Mendocino County - A. R. O'Brien Del Norte County - Henry Westbrook Jr., Milton M. McVay Officers President - William P. Filmer Vice President - William P. Filmer Vice President - William P. Filmer Vice President - Robert H. Trumbull General manager - Joseph B. Strauss Secretary - W. W. Felt Jr. Auditor - Roy S. West, John R.
Ruckstell Attorney - George H. Harlan On December 1, 1951, a windstorm revealed swaying and rolling instabilities of the bridge was retrofitted with lateral and diagonal bracing that its closure. [43] In 1953 and 1954, the bridge was retrofitted with lateral and diagonal bracing that its closure.
would better resist the types of twisting that had destroyed the Tacoma Narrows Bridge in 1940.[44] The original bridge used a concrete spalling. From 1982 to 1986, the original bridge deck, in 747 sections, was systematically replaced with a 40% lighter, and
stronger, steel orthotropic deck panels, over 401 nights without closing the roadway completely to traffic. The roadway was also widened by two feet, resulting in outside curb lane width of 11 feet, instead of 10 feet for the inside lanes. This deck replacement was the bridge's greatest engineering project since it was built and cost over $68 million
[45] A plaque on the south tower commemorating the 25th anniversary of the bridge and Fort Point The day before vehicle traffic was allowed, 200,000 people crossed either on foot or on roller skates. [12][48] Donaldge and Fort Point The bridge on the south tower commemorating the 25th anniversary of the bridge and Fort Point The day before vehicle traffic was allowed, 200,000 people crossed either on foot or on roller skates.
Bryan, a student sprinter from the San Francisco Junior College (now the City College of San Francisco), was the first to make it across the bridge from end to end.[47] On opening day, Mayor Angelo Rossi and other officials rode the ferry to Marin, then crossed the bridge in a motorcade past three ceremonial "barriers", the last a blockade of beauty
queens who required Joseph Strauss to present the bridge to the Highway District before allowing him to pass. An official song, "There's a Silver Moon on the Golden Gate," was chosen to commemorate the event. Strauss wrote a poem that is now on the Golden Gate, "was chosen to commemorate the event." The next day, President Franklin D.
 Roosevelt pushed a button in Washington, D.C. signaling the official start of vehicle traffic over the Bridge at noon. Weeks of civil and cultural activities called "the Fiesta" followed. A statue of Strauss was moved in 1955 to a site near the bridge. [19] As part of the fiftieth anniversary celebration in 1987, the Golden Gate Bridge district again closed the
bridge to automobile traffic and allowed pedestrians to cross it on May 24. This Sunday morning celebration attracted 750,000 to 1,000,000 people, and ineffective crowd control meant the bridge became congested with roughly 300,000 people, and ineffective crowd control meant the bridge is a like bridge is a like bridge became congested with roughly 300,000 people, and ineffective crowd control meant the bridge is a like bridge 
designed to flex in that way under heavy loads, and was estimated not to have exceeded 40% of the yielding stress of the suspension cables, [52] bridge officials stated that uncontrolled pedestrian access was not being considered as part of the 75th anniversary on Sunday, May 27, 2012, [53] [54] [55] because of the additional law enforcement costs
required "since 9/11."[56] To commemorate the bridge's 75th anniversary, automated user-controlled solar beacons were temporarily installed atop the towers.[57] A pedestrian poses at the old railing on opening day, 1937. Opening of the bridge of the bridge of the bridge of the bridge of the bridge. This copy was sent to the Olden Gate Bridge of the bridge of the bridge of the bridge.
 On the south side of the bridge a 36.5-inch-wide (93 cm) cross-section of the cable, containing 27,572 wires, is on display. Until 1964, the Golden Gate Bridge had the longest suspension bridge main span in the world, at 4,200 feet (1,280 m). Since 1964 its main span length has been surpassed by twenty bridges; it now has the second-longest main
span in the Americas, after the Verrazzano-Narrows Bridge in New York City. The total length of the Golden Gate Bridge's clearance above high water averages 220 feet (67 m) while its towers, at 746 feet (227 m) above the water,[58] were the world's tallest on a
 suspension bridge until 1993 when it was surpassed by the Mezcala Bridge, in Mexico. The weight of the roadway is hung from 250 pairs of vertical suspender ropes, which are attached to two main cables brack each end. Each cable is made of 27,572 strands of wire. The total
length of galvanized steel wire used to fabricate both main cables is estimated to be 80,000 miles (130,000 km).[58] Each of the bridge's two towers has approximately 600,000 rivets.[59] In the 1960s, when the Bay Area Rapid Transit system (BART) was being planned, the engineering community had conflicting opinions about the feasibility of
running train tracks north to Marin County over the bridge's suspension section was capable of supporting service on a new lower deck.[61] In July 1961, one of the bridge's consulting engineers, Clifford Paine, disagreed with their conclusion.[62] In January
1962, due to more conflicting reports on feasibility, the bridge's board of directors appointed an engineering review board to analyze all the reports. The review board to analyze all the reports on feasibility, the bridge was not advisable. [63] Aesthetics was the foremost reason that the first design of Joseph Strauss was
rejected. Upon re-submission of his bridge construction plan, he added details, such as lighting, to outline the bridge's cables and towers. [64] In 1999, it was ranked fifth on the List of America's Favorite Architecture by the America's Favorite Arch
color was selected by consulting architect Irving Morrow[67] because it complements the natural surroundings and enhances the bridge's visibility in fog.[68] The bridge was originally painted with red lead primer and a lead-based topcoat, which was touched up as required. In the mid-1960s, a program was started to improve corrosion protection by
stripping the original paint and repainting the bridge with zinc silicate primer and vinyl topcoats. [69][65] Since 1990, acrylic topcoats have been used instead for air-quality reasons. The program was completed in 1995 and it is now maintained by 38 painters who touch up the paintwork where it becomes seriously corroded. [70] The ongoing
maintenance task of painting the bridge is continuous.[71] A view of the Golden Gate Bridge from the Marin Headlands on a foggy morning at sunrise View of Marin from the movable median barrier system in January 2015 Testing the newly installed
movable barrierMost maps and signage mark the bridge as part of the California State Route 10.1 and California State Route 10.1 ends at "the
approach to the Golden Gate Bridge" and then resumes at "a point in Marin County opposite San Francisco". The Golden Gate Bridge, Highway and Transportation (Caltrans). The movable median barrier between the
lanes is moved several times daily to conform to traffic patterns. On weekday mornings, traffic flows mostly southbound into the city, so four of the six lanes run southbound. Conversely, on weekday afternoons, four lanes run southbound into the city, so four of the six lanes run southbound. During off-peak periods and weekends, traffic is split with three lanes in each direction.[73] From 1968 to 2015,
opposing traffic was separated by small, plastic pylons; during that time, there were 16 fatalities resulting from 128 head-on collisions. [74] To improve safety, the speed limit on the Golden Gate Bridge was reduced from 50 to 45 mph (80 to 72 km/h) on October 1, 1983. [75] Although there had been discussion concerning the installation of a movable
barrier since the 1980s, only in March 2005 did the Bridge Board of Directors commit to finding funding to complete the $2 million study required prior to the installation of a movable median barrier.[74] Installation of the resulting barrier was completed on January 11, 2015, following a closure of 45.5 hours to private vehicle traffic, the longest in
the bridge's history. The new barrier system, including the zipper trucks, cost approximately $30.3 million to purchase and install.[74][76] The bridge carries about 112,000 vehicles per day according to the Golden Gate Bridge Highway and Transportation District.[77] See also: Golden Gate National Recreation Area Looking north with traffic and
current flow into the bay with sailboats The bridge is popular with pedestrians and bicyclists, and was built with walkways on either side of the six vehicle traffic lanes were added in 2003, primarily as a measure to prevent
bicyclists from falling into the roadway.[78] The bridge was designated as part of U.S. Bicycle Route 95 in 2021.[79] The main walkway is on the eastern side, and to pedestrians only for the remaining daylight hours (until
6:00 p.m., or 9:00 p.m. during DST). The eastern walkway is reserved for pedestrians on weekends (5:00 a.m. to 6:00 p.m., or 9:00 p.m. during DST), and is open exclusively to bicyclists and only during the hours when they are not allowed on
the eastern walkway.[80] Bus service across the bridge is provided by one public transportation agency, Golden Gate Transit, which runs numerous bus lines throughout the week.[81] The southern end of the bridge, near the toll plaza and parking lot, is also accessible daily from 5:30 a.m. to midnight by San Francisco Muni line 28.[82] Muni formerly
offered Saturday and Sunday service across the bridge on the Marin Headlands Express bus line, but this was indefinitely suspended due to the COVID-19 pandemic.[83][84] The Marin Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge on the Marin Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company, also offers service across the bridge between Marin County and San Francisco International Airporter, a private company and San Francisco International Airporter, a private company and San Francisco International Airporter, and San Francisco International Airporter, a private company and San Francis
originally called the "Bridge Pavilion" (since renamed the "Golden Gate Bridge Welcome Center"), is located on the San Francisco side of the bridge's 75th-anniversary celebration. A cafe, outdoor exhibits, and restroom facilities are located nearby. [86] On the Marin side of
the bridge, only accessible from the northbound lanes, is the H. Dana Bower Rest Area and Vista Point, [87] named after the first landscape architect for the California Division of Highways. [88] Lands and waters under and around the bridge are homes to varieties of wildlife such as bobcats, harbor seals, and sea lions. [89] [90] Three species of
cetaceans (whales) that had been absent in the area for many years have shown recoveries and recolonizations in the vicinity of the bridge as of 2017[update]; researchers studying them have encouraged stronger protections and recommended that the public watch them from the bridge or from land, or use a local whale watching operator.[91][92]
[93] Tolls are only collected from southbound traffic after they cross from Marin County at the toll plaza on the San Francisco side of the bridge. All-electronic toll collection device or using the license plate tolling program. It remains not truly an open road
tolling system until the remaining unused toll booths are removed, forcing drivers to slow substantially from freeway speeds while passing through. Effective July 1, 2025 - June 30, 2026 (2025-07-01 - 2026-06-30), the toll rate for passenger cars with license plate accounts is $10.00, while FasTrak users pay a discounted toll of $9.75. During peak
traffic hours on weekdays between 5:00 am and 9:00 am, and between 4:00 pm and 6:00 pm, carpool vehicles carrying three or more people, or motorcycles may pay a discounted toll of $7.75 if they have FasTrak and use the designated carpool lane. Drivers without Fastrak or a license plate account must open a "short term" account within 48 hours
after crossing the bridge or they will be sent a toll invoice of $10.75 (the FasTrak toll plus an additional $1 fee). No additional $1 fee). No additional $1 fee). When the Golden Gate Bridge opened in 1937, the toll was 50 cents per car (equivalent to $10.94 in 2024),
collected in each direction. In 1950 it was reduced to 40 cents each way ($5.23 in 2024), then lowered to 25 cents in 1955 ($2.93 in 2024). In 1968, the bridge was converted to only collect tolls from southbound traffic, with the toll amount reset back to 50 cents ($4.52 in 2024). [97] From May 1937 until December 1970, pedestrians were charged a
toll of 10 cents for bridge access via turnstiles on the sidewalks. [98][99] The last of the construction bonds were retired in 1971, with $35 million ($303M in 2024) in principal and nearly $39 million ($303M in 2024) in principal and nearly $39 million ($303M in 2024) in principal and nearly $39 million ($303M in 2024) in principal and nearly $39 million ($303M in 2024) in principal and nearly $39 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($303M in 2024) in principal and nearly $30 million ($300M in 2024) in principal and nearly $30 million ($300M in 2024) in principal and nearly $30 million ($300M in 2024) in prin
 1991, the toll was raised a dollar to $3.00 (equivalent to $6.93 in 2024).[97][100] The bridge began accepting tolls via the FasTrak electronic toll collection system in 2002, with $4 tolls for FasTrak users and $5 for those paying cash (equivalent to $6.99 and $8.74 respectively in 2024).[97] In November 2006, the Golden Gate Bridge, Highway and
the Board unanimously voted to discontinue the proposal and seek additional revenue through other means, most likely a toll increase. [101][102] The District later increased the toll amounts in 2024). [97] In an effort to save $19.2 million over the
following 10 years, the Golden Gate District voted in January 2011 to eliminate all toll takers by 2012 and use only open road tolling.[103] Subsequently, this was delayed and toll taker elimination occurred in March 2013. The cost savings have been revised to $19 million over an eight-year period. In addition to FasTrak, the Golden Gate
Transportation District implemented the use of license plate tolling (branded as "Pay-by-Plate"), and also a one-time payment system for drivers to pay before or after their trip on the bridge. Twenty-eight positions were eliminated as part of this plan.[104] On April 7, 2014, the toll for users of FasTrak was increased from $5 to $6 (equivalent to $7.97).
in 2024), while the toll for drivers using either the license plate tolling or the one time payment system was raised from $6 to $7 (equivalent to $9.3 in 2024). Bicycle, pedestrian, and northbound motor vehicle traffic remain toll free. For vehicles with more than two axles, the toll rate was $7 per axle for those using license plate tolling or the one time
      ment system, and $6 per axle for FasTrak users. During peak traffic hours, carpool vehicles carrying two or more people and motorcycles paid a discounted toll of $4 (equivalent to $5.31 in 2024); drivers must have had Fastrak to take advantage of this carpool rate. [104] The Golden Gate Transportation District then increased the tolls by 25 cents
in July 2015, and then by another 25 cents each of the next three years.[105] In March 2019, the Golden Gate Transportation District approved a plan to implement 35-cent annual toll increases through 2023, except for the toll-by-plate program which will increase by 20 cents per year.[106] The district then approved another plan in March 2024 to
implement 50-cent annual toll increases through 2028.[107] Golden Gate Bridge toll increases (2014-28)[a] Effective date FasTrak Toll-by-plate Toll invoice Carpool Multi-axle vehicle April 7, 2014 $6.00 $7.00 $4.50 $7.50 $4.50 $7.50 per axle July 1, 2017 $6.75 $7.75
$4.75 $7.75 per axle July 1, 2018 $7.00 $8.00 $5.00 $8.00 $5.00 $8.00 $5.00 $8.00 $5.00 $8.00 $6.75 $9.75 $6.75 $9.75 $6.75 $9.75 per axle July 1, 2021 $8.40 $9.40 per axle July 1, 2023 $8.75 $9.00 $9.75 $6.75 $9.75 per axle July 1, 2024 $9.25
$9.50 $10.25 $7.25 $10.25 per axle July 1, 2025 $9.75 $10.00 $10.75 $7.75 $10.00 $10.75 $10.75 $10.75 $10.75 $10.75 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.25 $11.2
the Golden Gate Bridge District board approved a resolution to start congestion pricing at the Golden Gate Bridge, charging higher tolls during the peak hours, but rising and falling depending on traffic levels. This decision allowed the Bay Area to meet the federal requirement to receive $158 million in federal transportation funds from USDOT Urban
Partnership grant.[111] As a condition of the grant, the congestion toll was to be in place by September 2009.[112][113] In August 2008, transportation officials ended the congestion pricing program in favor of varying rates for metered parking along the route to the bridge including on Lombard Street and Van Ness Avenue.[114] Time-exposed
image of the Golden Gate Bridge illuminated on a clear night, complemented by its aerial and maritime beacons The Golden Gate Bridge's first aircraft warning lights used rotating aerobeacons at the top of the towers that flashed red. In the 1980s, the present-day 750-watt red lamps were put into service, along with 16 red outline lanterns on the
cables to enhance the structure's visibility at night.[115] For maritime movement, the bridge has white and green navigation lights on both sides at the midspan and red safety lights marking the south tower's fender.[116][117] See also: San Francisco fog Commonly, particularly during the summer months, fog on the strait becomes so dense that it
can fully obscure the whole bridge, [118] creating an even greater hazard for mariners. [117] A system of five foghorns was thus set up on the bridge in 1937 and remains operational to this day. The fog signals are air-powered and are manually switched on and off. [119][120][121] Coast Guard regulates the pattern and pitch by which the horns must
sound.[115] Two foghorns are mounted at the base of the south tower 40 feet (12 m) above water level (at high tide).[120] They each point in the opposite direction, west and east, and have an identical profile: 48 inches (120 cm) long and a 23+1/2-inch (60 cm) diameter bell. Both horns sound in tandem, producing a 2-second blast every 18
seconds[115] in a distinctively low tone.[122][123] On October 18, 2013, at around 2:00 a.m., one foghorn sounded perpetually for nearly an hour due to a malfunctioning relay. It was disconnected by 3:00 a.m. and repaired later that morning.[124] The other three foghorns are mounted at the midspan of the bridge, just beneath the deck.[125] Two
westward-facing horns are each 36 inches (91 cm) long with an 18-inch (46 cm) diameter bell and emit a higher tone than the horns on the south tower.[115] The third horn facing east is smaller, with a length of 24+1/2 inches (62 cm), thus emitting an even higher note.[122] Altogether, the three horns
produce two 1-second blasts every 36 seconds with a dual-toned timbre; [115] they are synchronized to sound after every two blasts of the sound of these horns. Dating back to 1985, the midspan foghorns replaced the original horns
that had partly failed in the late 1970s, causing them to sound with only a single tone.[115] The foghorns blared wildly as Queen Mary 2 passed under the bridge for her 2007 visit in San Francisco.[127][128] Since the late 1970s, the Golden Gate Bridge has seen a share of protest rallies throughout its history. In some cases, participants staged publications are cases, participants staged publications.
stunts to draw heightened attention to their political messages by haphazardly scaling the bridge. [129][130] On November 24, 1996, actor Woody Harrelson joined a group of local environmentalists who draped a large banner above the roadway deck protesting CEO Charles Hurwitz over his aggressive logging advances. The incident snarled traffic
and caused delays lasting the entire day, [131] As an effort to deter any more disruptive stunts, a legislation authored by State Senator Quentin Kopp and signed into law by Governor Pete Wilson in 1997, stiffened penalties for trespassing on the bridge. [130] Nonetheless, demonstrations have continued to take place on the Golden Gate Bridge over
the years, often resulting in the complete shutdown of the bridge.[b] Notably, on June 6, 2020, protestors occupied the bridge as part of a nationwide denunciation to police brutality in the wake of the George Floyd's murder,[148][149][150] and in November 2021 two California Highway Patrol officers and three bridge employees were injured in a
vehicular chain-reaction crash during a protest against government-mandated COVID-19 vaccinations. [151][152] In February 2024 and again in April, pro-Palestinians in Gaza. [153][154] Main article: Suicides at the Golden Gate Bridge As a suicide
prevention initiative, signs on the Golden Gate Bridge promote special telephones that connect to crisis hotlines, as well as 24/7 crisis text lines. The Golden Gate Bridge was the most used suicide site in the world prior to the installation of suicide prevention nets.[155] Jumpers would fall for four seconds,[156] then hit the water at around 75 mph
(120 km/h; 30 m/s). Most would die from impact trauma.[156] About 5% would survive the initial impact but generally drown or die of hypothermia in the cold water.[157][158] After years of debate and an estimated more 2,000 deaths, implementation of suicide prevention barriers began in April 2017.[159][156] Suicide nets on the Pacific side of the
Golden Gate Bridge in December 2022 The so-called nets are taut, designed to be painful to land on. They extend 20 feet (6.1 m) out from the bridge. [156][160] They are made of "marine-grade stainless-steel wire rope, akin to a horizontal fence
considered successful, even convincing former skeptics. As of November 21, 2024, the Golden Gate Bridge Highway and Transportation District reported that the number of deaths by suicide year to date had been eight, down from an average 33.5. Through the end of October 2024, thwarted attempts were down from an annual average of 200 to 106.
[164][156] The Golden Gate Bridge was designed to safely withstand winds of up to 68 mph (110 km/h); on December 1, 1951, because of weather conditions only three times: on December 3, 1982, because of winds of 70 mph (113 km/h); and on December 3, 1983,
because of wind gusts of 75 mph (121 km/h).[69] An anemometer placed midway between the two towers on the west side of the bridge has been used to measure wind speeds and direction. Another anemometer was placed on one of the towers.[167] A recording of the noise produced by the Golden Gate Bridge taken in the Presidio of San Francisco
on Sunday March 2, 2025 In June 2020 residents across San Francisco and Marin Counties began to notice a humming noise. The noise has been described as "eerie", "a shrill screeching sound", and for some evokes a feeling that "something bad is about to happen."[168][169][170] The Golden Gate Bridge Highway and Transportation District
determined that the "unsettling" whistle is produced by new railing slats when a strong zephyr blows.[171] The new slats were installed starting in 2019 on the west side of the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors and were selected to improve the bridge; they are more flexible than their predecessors are more flexible than the bridge; they are more flexible than the bridge; they are more flexible than the bridge than
been predicted from wind tunnel tests, [165] but not included in the environmental impact report. [172] The Bridge District determined that, in fact, there are two sounds that the bridge produces. When the wind passing through the slats reaches 22 mph (35 km/h), "a low-frequency tone—between 280 and 700 hertz" is produced. [170]
When the wind passes through the slats at an angle and reaches 27 mph (43 km/h), the slats produce "higher pitch and frequency (1.1 kHz)."[173] On December 16, 2021, the Bridge District approved a fix for the noise; 12,000 U-shaped clips with rubber dampers are to be installed between the slats at a cost of $450,000.[174] Testing suggests that
this fix will reduce the noise by 75%; however, even with the fix, the bridge is expected to emit the high frequency tone an average of 70 hours per year. The Bridge District expects installation to be "completed in 2025." [173] An independent engineering analysis of a 2020 sound recording of the
tones concludes that the singing noise comprises a variety of Aeolian tones (the sound produced by air flowing past a sharp edge), arising in this case from the ambient wind blowing across metal slats of the newly installed sidewalk railings, [175] The tones observed were frequencies of 354, 398, 439 and 481 Hz, corresponding to the musical notes
F4, G4, A4, and B4; these notes form an F Lydian Tetrachord. South approach sub-structure with seismic events. The proximity of
the bridge to the San Andreas Fault places it at risk for a significant earthquake. Once thought to have been able to withstand any magnitude of foreseeable earthquake, the bridge was actually vulnerable to complete structural failure (i.e., collapse) triggered by the failure of supports on the 320-foot (98 m) arch over Fort Point.[176] A $392 million
program was initiated to improve the structure's ability to withstand such an event with only minimal (repairable) damage. A custom-built electro-hydraulic synchronous lift system for construction of temporary supports, were completed
with engineers from Balfour Beatty and Energac, without disrupting day-to-day commuter traffic.[177][178] Although the retrofit was initially planned to be completed in 2012, as of May 2017[update] it was expected to take several more years.[178][180] The former elevated approach to the Golden Gate Bridge through the San Francisco
Presidio, known as Doyle Drive, dated to 1933 and was named after Frank Pierce Doyle, a director of the California State Automobile Association.[181] The highway carried about 91,000 vehicles each weekday between downtown San Francisco and the North Bay and points north.[182] The road was deemed "vulnerable to earthquake damage", had a
problematic 4-lane design, and lacked shoulders; a San Francisco County Transportation Authority study recommended that it be replaced. Construction on the $1 billion replacement, [183] temporarily known as the Presidio Parkway, began in December 2009. [184] The elevated Doyle Drive was demolished on the weekend of April 27-30, 2012, and
traffic used a part of the partially completed Presidio Parkway, until it was switched onto the finished Presidio Parkway on the weekend of July 9-12, 2015. As of May 2012[update], an official at Caltrans said there is no plan to permanently rename the portion known as Doyle Drive.[185] A comparison of the side elevation of the Golden Gate Bridge
to the side elevations of some of the most notable bridges around the world on the same scale (see also interactive version) Panorama of San Francisco with two bridges (Western section of Bay Bridge in the left background), Coit Tower (in background to the left of north tower), and Fort Mason (on the San Francisco waterfront in the background).
behind the north tower) from Marin Panorama of the Golden Gate Bridge at night, with San Francisco in the background Transport portal Engineering portal San Francisco Bay Area portal The Bridge, a 2006 documentary on suicides from the bridge Golden Gate Bridge in popular culture List of bridges documented by the Historic American
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The width of the driving lanes is 62 feet between curbs and two sidewalks. The width of the driving lanes is 62 feet between curbs and two sidewalks. The width of the driving lanes is 62 feet between curbs and two sidewalks. Orange." The bridge has an advanced security system with motion detectors and security cameras. 1848 - Captain John C. Fremont names the cleft in the Coastal Mountain Range opening onto San Francisco Bay the Golden Gate. The bridge derives its name from the land feature and not its color. 1916 - James H. Wilkins comes up with the idea to connect northern California to the San Francisco peninsula. December 1924 - The United States War Department, the government entity responsible for the entire area surrounding the strait, approves the project. 1928 - The Golden Gate Bridge and Highway District is formed and Joseph B. Strauss is appointed as architect/designer. January 5, 1933 Construction begins. May 27, 1937 - The bridge is completed and opens to pedestrians. The bridge is opened to vehicles. August 7, 1937 - World War I veteran Harold Wobber, the first bridge suicide, purportedly says, "This is where I get off,' and then jumps to his death. 1939 - A safety railing to prevent suicides is installed. The original bridge design by Strauss called for fencing over five feet as to be "practically suicide-proof." Architect Irving Morrow changed that and lowered the railing. August 9, 2002 - California's Office of Homeland Security alerts the FBI after receiving an anonymous tip that terrorists plan to crash a U.S. military plane into the bridge. May 8, 2012 - Opening of the Golden Gate Bridge Pavilion. June 27, 2014 - San Francisco's Golden Gate Bridge Board of Directors unanimously approves a funding package totaling \$76 million to erect and fund a suicide deterrent net on the bridge. January 12, 2015 - The bridge re-opens after the two day installation of a Road Zipper System. The "moveable median barrier system" is designed for traffic management and to protect riders from cross-over accidents. April 2017 - Two Wisconsin teens climb the north tower without being noticed by security. Officials are unaware of the events until weeks later when the teens uploaded a video of their climb to YouTube. August 2018 - Construction begins on a suicide deterrent system. The net is completed in January 2024. July 1, 2019 - District tolls and fares increase for drivers crossing into San Francisco. Toll increases will continue through 2023 in order to help reduce the Golden Gate Bridge, Highway and Transportation District's \$75 million budget shortfall. June 2020 - The bridge begins making sounds that can be heard as far as three miles away. The "musical tones" coming from the bridge are a result of a project "designed to make the bridge more aerodynamic under high wind conditions and is necessary to ensure the safety and structural integrity of the bridge for generations to come," a Golden Gate Bridge district spokesperson tells CNN. July 7, 2023 - The San Francisco Chronicle reports that the Golden Gate Bridge district spokesperson tells CNN. July 7, 2023 - The San Francisco Chronicle reports that the Golden Gate Bridge district spokesperson tells CNN. July 7, 2023 - The San Francisco Chronicle reports that the Golden Gate Bridge district spokesperson tells CNN. July 7, 2023 - The San Francisco Chronicle reports that the Golden Gate Bridge district spokesperson tells CNN. July 7, 2023 - The San Francisco Chronicle reports that the Golden Gate Bridge district spokesperson tells CNN. July 7, 2023 - The San Francisco Chronicle reports that the Golden Gate Bridge district spokesperson tells CNN. 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