A Timeline of the San Francisco-Oakland Bay Bridge East Span Replacement Project

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October 2021

METROPOLITAN
TRANSPORTATION
COMMISSION

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1989

October 17, 1989 at 5:04 p.m.

Loma Prieta earthquake occurs.

The Loma Prieta earthquake (magnitude 6.9) occurs snapping a section of the eastern span of the San Francisco-Oakland Bay Bridge and killing one person. A total of 63 people were killed and 3,757 were reported injured by the earthquake.

1990

May 31, 1990

Seismic safety report released.

A report titled "Competing Against Time: The Governor's Board of Inquiry on the 1989 Loma Prieta Earthquake" is released. The report recommends a comprehensive seismic safety assessment of each major bridge crossing the San Francisco Bay.

1992

June 1992

An analysis of the bridge post-earthquake is done.

This California Department of Transportation (Caltrans) report looks at the effects of the earthquake on the bridge and makes recommendations for repairs.

September 1992

Caltrans estimates retrofit cost at $150-200 million.

A preliminary study for Caltrans estimates the cost of retrofitting the east span to be $150 million to $200 million.

1994

Fall 1994

Brian Maroney assigned to bridge project.

Caltrans engineer Brian Maroney (who would become chief engineer of the new east span) is assigned to the Bay Bridge project.

1996

February 1996

Caltrans report says replacing bridge more cost effective, estimate goes up to $1.3 billion.

The report says retrofitting the bridge would be so much more difficult than first thought and that replacing the span may be more cost effective. Caltrans confirmed that the unexpected complexity of the project had also caused cost estimates to go from $250 million to $1-1.3 billion.

December 1996

Experts recommend replacement.

A panel of experts concludes the eastern span should be replaced rather than retrofitted.

1997

February 1997

Governor Wilson announces the east span will be rebuilt for $1.5 billion.

Governor Pete Wilson supports building a new east span, the estimated cost is $1.52 billion. California officials say an elevated skyway can be ready in seven years. The state will allow Bay Area citizens to decide what kind of bridge they want but they will have to pay for it, probably with increased tolls.

State Senator Quentin Kopp said the Metropolitan Transportation Commission (MTC) should be a focal point for reaching a decision on the bridge.

March 1997

MTC appoints the Bay Bridge Design Task Force.

MTC appoints the Bay Bridge Design Task Force (Task Force), a seven-person subset of the commission to forge a regional consensus on the design of the replacement span. The Task Force in turn appoints the Engineering and Design Advisory Panel (EDAP). The Task Force member were Mary King (chair), Sharon Brown, Mark DeSaulnier, Elihu Harris, Tom Hsieh, Jon Rubin, and Angelo Siracusa.

March 18, 1997

First meeting of the Task Force.

The first meeting of the Bay Bridge Design Task Force is held to begin the process of selecting the design of the new east span.

April 1997

Retrofit vs. new bridge analysis produced.

An analysis comparing the cost/benefit of retrofitting the east span versus building a new bridge is produced by Caltrans.

July 1997

Mayor Willie Brown announces support for northern alignment.

San Francisco Mayor Willie Brown sends a letter of support for placing the new bridge to the north of the existing span.

August 1997

Governor Wilson signs legislation funding new east span.

Governor Pete Wilson signs legislation that increases the tolls on Bay Area bridges beginning in January 1998 to pay for the new east span of the Bay Bridge and other bridge work in the Bay Area. The bill also gives MTC control over money raised when Bay Area voters increased tolls on the bridges to $1 in 1988.

1998

May 1998

Construction cost estimates for 30% design.

A report on the structural component construction cost estimates for the 30% design level is produced.

Executive summary of the 30% design report.

An executive summary of the 30% design report is prepared by Caltrans.

May 29, 1998

EDAP recommends a single-tower self-anchored suspension (SAS) bridge.

EDAP recommends a single-tower SAS span with the original viaduct design by T. Y. Lin International by a vote of 12 to 7. The meeting materials include the final agenda and various supporting documents.

June 10, 1998

Value analysis report submitted.

Caltrans receives a value analysis report on the proposed project to replace the east span.

June 17, 1998

MTC staff recommendation memo.

A memorandum from the Executive Director of MTC (Lawrence D. Dahms) to the Task Force lists a summary of recommendations on the Bay Bridge design and amenities.

June 22, 1998

30% design supplemental report released.

A supplement to the 30% design report is released by Caltrans.

June 24, 1998

The Task Force accepts the single-tower SAS recommendation by EDAP and MTC votes to adopt the Task Force recommendation.

The Task Force votes four to one with two abstentions to select the SAS design which has an estimated cost of $1.5 billion and a 2004 opening date. The votes are: Mary King (yes), Sharon Brown (yes), Mark DeSaulnier (yes), Elihu Harris (no), Tom Hsieh (abstain), Jon Rubin (abstain), and Angelo Siracusa (yes).

MTC, meeting as the Bay Area Toll Authority (BATA), votes 11-1 to adopt the design recommended by the Task Force. Oakland Mayor Elihu Harris is the only dissenting vote.

June 1998

A value analysis report is released.

Caltrans releases a value analysis report that reviews the current status of the design and identifies alternatives that could improve the current design.

Supplemental design report released.

A supplement to the 30% design report is released that summarizes recommendations made by the Engineering Design and Advisory Panel.

Elected officials complain about the chosen design.

Elected officials express concerns about the aesthetics of the bridge and that it doesn't include a plan for rail service. Ten East Bay elected officials send a letter complaining that the chosen design is not a world-class design.

July 1998

Willie Brown supports southern alignment.

San Francisco Mayor Willie Brown reverses his earlier position in support of the northern alignment, he now opposes it. The Navy bars Caltrans from visiting the Treasure Island to collect geological information.

September 1998

Draft EIR is published.

The draft environmental impact report is published by Caltrans.

November 1998

EPA cites bridge EIR as inadequate.

The Environmental Protection Agency send Caltrans' environmental impact report back for more work citing inadequate information, the biggest deficiency is the lack of information on the dredging plans.

December 1998

Caltrans moves forward with northern alignment.

Caltrans decides to move forward with the northern alignment of the new east span despite the opposition of San Francisco Mayor Willie Brown, Oakland Mayor Jerry Brown and others.

1999

February 1999

The Task Force reconvenes after complaints about design.

San Francisco and the Navy bring complaints to the Task Force. Mayors Willie Brown and Jerry Brown send a letter to Governor Gray Davis asking him to move the alignment of the span. Governor Davis asks Caltrans to review the bridge design. EDAP produces a report on the northern/southern alignment question.

March 1999

Davis says the bridge should be built as planned.

Governor Gray Davis say he wants to go forward with the current plans for the bridge. Davis' concerns are that the bridge is safe and done in a timely and cost-effective manner.

May 1999

The Navy doesn't allow Caltrans access to sites.

Caltrans continues to request access to Navy property but the Navy continues to reject their requests citing numerous objections. This refusal causes delays in the project and increases the cost.

June 1999

Supplemental draft EIR released.

Caltrans releases a supplement to the draft environmental impact report for the project.

July 1999

Initial rail study completed.

An initial study of the rail options on the new east span is completed.

August 27, 1999

Officials meet in Washington D.C.

Officials from Caltrans, San Francisco, the Navy, and other agencies meet in Washington D.C. with White House aides to discuss disputes about the bridge.

September 23, 1999

Navy allows geological testing.

More than a year after first requested, the Navy gives Caltrans permission to collect geological information on Yerba Buena Island.

October 1999

Rail on Bay Bridge studied.

An assessment of improvement and costs to establish rail on the Bay Bridge is released.

Late 1999

Phase 1 design completed.

The phase 1 design document is completed, it's estimated the whole design will be completed in May 2000.

2000

January 2000

Land issues on YBI and Treasure Island studied.

Land issues associated with building the new east span and their effect on Yuerba Buena Island and Treasure Island are studied. The study concludes that none of the construction alternatives detract from potential redevelopment of the islands.

April 2000

FHWA commissions study.

The Federal Highway Administration (FHWA) commissions the Army Corps of Engineers to study the design of the east span.

Another retrofit vs. new bridge study produced.

Caltrans produces a report that studies retrofitting vs. replacement of the bridge. This study identifies replacement as the preferred alternative.

May 2000

Navy receives criticism.

The California Transportation Commission (CTC) says the Navy is acting criminally and could have blood on its hands by stalling the new east span. The White House directs the Navy to transfer the disputed land on Yerba Buena Island to Caltrans.

July 2000

Rail feasibility study produced.

MTC releases a rail feasibility study that concludes rail is feasible on the bridge but at a very high cost, maybe as high as $3 billion.

September 2000

Army Corps of Engineers endorses rebuilding.

The Army Corps of Engineers releases an interim report endorsing the decision to rebuild the east span.

October 2000

Army Corps of Engineers supports bridge design.

The final report by the Army Corps of Engineers gives qualified support to the bridge design with recommendations that Caltrans perform additional evaluation and testing of the replacement design as it nears completion.

Land transferred to state.

The federal government transfers land on Yerba Buena Island from the Navy to the state of California which ends the need for the state to get permission from the Navy to build on the island and to complete an environmental study of the new span.

2001

March 2001

Caltrans publishes annual bridge report.

The annual toll bridge seismic report includes cost increases associated with the delayed regional process of selecting the design and proposes a regional solution for paying for the cost increases.

April 2001

Caltrans releases a new cost estimate of $2.6 billion.

New estimates by Caltrans put the cost of the span at $2.6 billion, twice what engineers estimated four years earlier. State Senators Tom Torlakson and Don Perata call for a hearing to investigate the cost increase.

May 2001

Caltrans publishes final EIR.

Caltrans publishes a four-volume final environmental impact statement for the new span. The volumes contain the FEIR, comments and responses, appendices A-D & I-P and appendices E-H

July 11, 2001

FHA approves record of decision.

The Federal Highway Administration approves the record of decision for the new east span which clears the way for Caltrans to advertise for contractors.

July 2001

Cost review published.

MTC publishes a cost review of the retrofit program prepared by Bechtel Infrastructure Corporation.

September 2001

New funding deal agreement.

Lawmakers and Governor Gray Davis arrive at a deal to pay for the cost overruns of the east span project. Bay Area lawmakers agree to extend the $1 surcharge on toll bridges past its expiration in 2009 to at least 2020. The Davis administration agrees to give $642 million in funding for the span and Caltrans agrees to pay for up to $448 million in added costs if their current estimate is wrong.

December 2001

Loan from feds is received.

The state announces that it received a $450 million loan from the federal government to begin construction of the new span.

December 19, 2001

Construction bids received.

Two bids are submitted for the first phase of the construction project, a pair of viaducts from the toll plaza to the tower. The winning bid ($1.04 billion) exceeds the Caltrans estimate ($800 million).

2002

January 22, 2002

Contract awarded.

Caltrans awards a $1.04 billion contract to Kiewit FCI Manson to build twin concrete viaducts side by side. This is the largest contract in the agency's history.

January 29, 2002

Groundbreaking ceremony.

A groundbreaking ceremony on Treasure Island for the new east span is held.

August 2002

Bridge costs estimate nearly doubles to $4.6 billion.

A California State Auditor report estimates the project cost will increase from $2.6 billion to $4.6 billion and moves the completion date from 2004 to 2009. It also examines the reasons for the cost increases and project delays. It says that the Navy's opposition delayed the design process by nearly two years.

2003

February 2003

Pile driving in Bay begins.

Work begins on driving the piles for the skyway portion of the span.

August 2003

Bid for marine foundation received.

The lone bidder to build the bridge tower's marine foundation says the cost will be $210 million, the Caltrans estimate was $129 million.

October 2003

Caltrans changes bid rules for the SAS.

Caltrans alters the bid rules for the SAS in a strategy to control costs on the project. The bid opening is postponed to allow contractors time to respond to the new rules.

December 2003

Bid to construct temporary approach received.

CC Myers submits the low bid of $71 million to construct a temporary approach between Yerba Buena Island and the new span. Caltrans had estimated the cost at $93 million.

2004

May 26, 2004

Bid for SAS is opened.

The only bid comes from a joint venture of American Bridge Co., Nippon Steel Bridge and Fluor Enterprise to build the span's tower for $1.8 billion, more than twice the $740 million projected. This puts the total cost of building the bridge at about $4 billion.

June 2004

Cost review requested by BATA.

The Bay Area Toll Authority requests that Bechtel Infrastructure Corporation perform a cost review of the current Caltrans cost estimate of the Toll Bridge Seismic Retrofit Program (TBSRP). The purpose of this effort is to review the reasonableness of the current Caltrans cost forecast for the TBSRP.

August 2004

New cost estimate of $5.1 billion for bridge.

The new cost estimate for the bridge is $5.1 billion in the toll bridge seismic program annual report. The new opening date is moved to 2010. A cost review of the retrofit program by Bechtel Infrastructure Corporation for MTC is published. It supports Caltrans' cost forecasts for the program and the plan to build the SAS span.

September 30, 2004

Gov. Schwarzenegger rejects lone bid for SAS.

Governor Arnold Schwarzenegger choses to let expire the lone bid for the SAS span gambling that new bids or a different design will save money.

December 2004

Schwarzenegger administration proposes eliminating the SAS.

Transportation Secretary Sunne Wright McPeak says a skyway design should save money. Schwarzenegger and McPeak decide to switch designs despite receiving conflicting opinions from experts.

Audit criticizes Caltrans.

Caltrans concealed cost overruns from the Legislature and the public, mismanaged the project and consistently underestimated expenses according to a state audit.

Retrofit timeline created.

An annotated timeline of the history of the Bay Bridge retrofit is produced by the California Research Bureau at the request of Assemblymember Wilma Chan.

2005

January 2005

Gov. Schwarzenegger's proposed redesign could face cost overruns.

Governor Arnold Schwarzenegger's proposed redesign of the east span could face severe time and cost overruns according to a report by the Legislative Analyst's Office.

Cost review submitted to the state.

A historical review of cost increases is submitted to the California Business, Transportation and Housing Agency.

February 2005

FBI investigates welds.

The Federal Bureau of Investigation (FBI) begin investigating allegations that welders were encouraged to save time by producing substandard welds affecting pilings intended to support the new span.

March 2005

New cost estimate is $6.2 billion.

The new Caltrans cost estimate is $6.2 billion as political battles over design and funding stall the project. The completion date is projected to be 2012.

Report presented to Subcommittee.

The Legislative Analyst's Office presents a report on the funding history of the toll bridge program to the State Assembly Budget Subcommittee.

May 2005

Tests find no weld problems.

A series of tests by the Federal Highway Administration find no problems with welds on the new span. Three investigation reports, one by John Fisher, one by Roy Teal and one by Mayes Testing are issued.

June 2005

Investigation into safety issues ordered.

The state auditor will investigate worker safety issues, look at Cal-OSHA's oversight on the project, the accident rate and whether cash bonuses were paid for doing faster work.

July 18, 2005

Legislation signed to move construction forward. New estimate of $6.3 billion.

The compromise legislation allows bridge tolls to be raised by $1 (to $4 total) starting in 2007 and the state will contribute an additional $630 million. The deal allows for the SAS span to be built.

The Toll Bridge Program Oversight Committee (TBPOC) is created as part of a settlement between the Legislature and Governor Arnold Schwarzenegger when he signs Assembly Bill 144 (2005). The Committee consists of the executive directors of the Metropolitan Transportation Commission, California Department of Transportation, and the California Transportation Commission.

August 2005

New bids requested for SAS.

The contract to build the single-tower, self-anchored suspension (SAS) span is advertised.

October 2005

FBI closes weld investigation.

The FBI drops its eight-month investigation into alleged faulty welds. A report says critical welds were made 30 percent stronger than needed to withstand the most violent quake predicted.

November 2005

Work on bridge resumes.

The impasse over the bridge design and cost is resolved and foundation work for the tower resumes.

December 2005

Delay costs taxpayers $81 million.

Governor Arnold Schwarzenegger's failed bid to change the design cost taxpayers $81 million according to Caltrans.

2006

January 2006

Caltrans believes bridge will open in 2013.

Caltrans officials believe the entire new bridge will open to traffic in 2013.

February 2006

Cal/OSHA faulted on safety.

According to a state auditor's report Cal/OSHA is deficient in several areas of worker safety on the bridge project.

Shanghai subcontractor questioned.

A Caltrans audit finds that ZPMC, the Shanghai subcontractor that will assemble the steel deck pieces, lacks bridge experience.

March 22, 2006

New bids for SAS opened.

Two bids were opened for the contract to build the single-tower, self-anchored suspension (SAS) span. The bids were $1.43 billion from American Bridge Co./Fluor Enterprises and $1.68 billion from Kiewit/Koch/ Skanska/Manson.

April 2006

Report on cost increases updated.

A report that reviews the history of cost increases on the bridge project submitted to the State of California Business, Transportation and Housing Agency is updated.

April 18, 2006

SAS contract awarded.

Caltrans awards the contract to build the single-tower, self-anchored suspension (SAS) span to American Bridge/Fluor Enterprises, a joint venture for $1.43 billion.

June 2006

Contractor cited for safety violations.

Cal/OSHA issues three citations to KFM, a contractor building the new span for unreported injuries, the citations result in a $5,790 fine.

September 2006

Bridge closed Labor Day.

The bridge is closed during Labor Day weekend for construction purposes including completion of the third phase of demolition work on the West Approach.

December 2006

Last of 452 concrete slabs shipped to bridge.

A 780-ton wing-shaped chunk of concrete, the last of 452 pieces fabricated in Stockton that make up the deck of the 1.4-mile skyway portion of the new east span, is hoisted into place.

2007

March 17, 2007

Tower foundation completed.

A steel footing box is placed in the marine foundation of the tower (T1) marking the completion of the foundations for the tower.

June 2007

Welding on pier E2 completed.

Welding on pier E2, which will support the eastern end of the SAS road deck, is completed; this secures the steel footing frame plates to the piles.

August 2007

Shanghai subcontractor audited again.

A follow-up audit by Caltrans of ZPMC, the Shanghai subcontractor that would assemble the steel deck pieces, is performed.

September 2007

Bridge closed for Labor Day weekend.

The bridge closes for Labor Day weekend for road work. A 350-foot stretch of highway is demolished and a replacement structure is rolled in to replace it.

December 2007

The skyway is completed.

The skyway portion of the new span is completed.

2008

September 2008

Temporary support structure being built.

A temporary support structure of seven towers to hold up the road deck of the permanent new span is being built in the Bay.

2009

March 2009

Left Coast Lifter arrives.

A 328-foot-long crane called the Left Coast Lifter arrives in the Bay Area. It's the biggest floating crane ever used on the west coast.

July 2009

Steel delayed in China.

Troubles with steel fabrication in Shanghai, China cause a 15-month delay in shipping deck pieces to the Bay Area.

August 2009

Welding causes concern.

Concern over welding troubles on the bridge deck pieces in Shanghai prompt the TBPOC to demand more attention to quality.

September 2009

Bridge closed for Labor Day weekend construction.

The bridge closes for Labor Day weekend. Caltrans installs a new detour, dubbed the S-curve, leading to an increase in traffic accidents. A cracked eyebar is discovered.

October 2009

Eyebar repairs needed.

Repairs to the eyebar come loose, forcing a 6-day emergency closure of the bridge for a new fix.

November 2009

Accident on S-curve.

A big rig topples over the edge of the S-curve killing the driver of the vehicle.

2010

January 2010

Deck pieces arrive.

The first shipment of steel deck pieces arrives from China and assembly of the suspension span deck begins.

February 2010

Road deck section installed.

A crane lifts into place the first permanent piece of the SAS span, a road deck section weighing 1,020 tons and measuring 84 feet long.

Gateway Park ideas sought.

The first public meeting to explore ideas for what is being called Gateway Park is held.

July 2010

First tower section installed

The first steel section of the tower is lifted into place, a 165-foot-tall section weighing 1,200 tons.

August 2010

Four sections of tower in place.

The first four sections of the SAS span tower are in place.

October 2010

Oakland touchdown phase completed.

The first phase of the Oakland touchdown is complete. The second set of sections of the SAS span tower is lifted into place.

December 2010

Third set of sections placed in tower.

The third set of sections of the SAS tower is placed which raises the tower up to 374 feet.

2011

March 2011

The fourth section of the tower is lifted into place.

Crews lift the fourth group of tower sections into place. The tower now stands at 480 feet of its eventual 525-foot height.

May 2011

Detour completed.

The detour for eastbound traffic near the Oakland Toll Plaza is completed. The 450-ton double steel cable saddle is lifted to the top of the tower of the SAS span.

September 2011

YBITS construction.

Construction begins on the Yerba Buena Island Transition Structure (YBITS).

October 28, 2011

Final deck section installed.

The final section of the deck is installed for the self-anchored suspension span connecting the SAS with the Skyway.

November 2011

TBPOC requests review of inspection records.

The Toll Bridge Program Oversight Committee requests the Seismic Safety Peer Review Panel to conduct an independent review of all records from quality assurance inspections of the piles. The project team issues a response to the quality assurance panel recommendations.

December 2011

Tower complete, cabling begins.

The tower is completed and workers begin installing strands of the main cable.

2012

January 2012

Demolition of old span project estimates arrive.

Demolition of the old east span is projected to take 5-7 years and cost $244 million.

February 2012

Westbound deck closed during Presidents' Day Weekend.

The bridge is closed over Presidents' Day weekend to construct a detour near the toll plaza.

March 2012

Seismic Safety Peer Review Panel announces findings.

The Seismic Safety Peer Review Panel announces that the new east span will be safe and reliable. They say a review of documents shows it is highly unlikely that any data falsification occurred.

April 2012

Final cable strand hauled into place.

The last of the 137 strands of the SAS span's single main cable is hauled into place on April 5th. The cable is comprised of 137 such strands each made up of 127 wires. There are 17,399 individual steel wires 5mm thick and nearly 1-mile long. In total, the cable weighs nearly 10.6 million pounds. Crews began placing the first strand December 19, 2011 and complete the installation in just four months averaging two strands per day.

May 2012

Concrete foundation questioned.

Questions about the quality of concrete in the foundation of the tower lead to legislative inquiries.

Cable compaction begins.

Once the 137 cable strands are connected to anchor rods and locked into place, crews begin cable compaction. This process uses a state-of-the-art hauling system to squeeze the cable strands together to form the 2.6-foot-diameter cable.

August 2012

Load transfer begins.

The weight of the roadway (35,200-tons) begins being transferred from the temporary supports to the single self-anchored cable.

November 2012

Load transfer completed.

The entire weight of the bridge's steel box girder road-decks is shifted to the SAS main cable. Load transfer, the time- and labor-intensive process of transferring the weight of the SAS roadways from the falsework to the single main cable, is finished.

2013

March 2013

Anchor rods break.

Cracked high-strength steel support rods prompt investigations into similar steel parts and Caltrans' oversight of the project. Caltrans officials report that 32 rods holding down a seismic safety device snapped while being tightened. Investigations begin and the opening date is questioned.

Final deck section placed.

The easternmost deck section of the eastbound Oakland Touchdown was poured into place, creating the final section of the bridge's decks.

May 2013

TBPOC approves substitute for broken rods.

The Toll Bridge Program Oversight Committee announces a plan to install large steel saddles over two seismic safety devices after 32 high-strength anchor rods break.

Metallurgical analysis done.

A metallurgical analysis of the broken anchor rods is performed.

July 8, 2013

Opening postponed.

Officials call off the Labor Day opening. TBPOC issues a report that concludes that the 2008 A354 rods failed as a result of hydrogen embrittlement.

July 10, 2013

Temporary workaround to broken bolts proposed.

Engineers tell bridge officials they have figured out a temporary repair that will allow the bridge to open as planned on Labor Day. TBPOC approves the design of the steel saddle retrofit to replace the design strength provided by the failed 2008 rods at Pier E2.

August 2013

Review of proposal to shim bearings.

Two reviews, one by Modjeski and Masters, the other by Buckland & Taylor, of the strategy to shim the bearings after the failure of some of the anchor bolts are produced.

FHWA review of the A354 bolts.

The FHWA issues a report to the Toll Bridge Program Oversight Committee after being asked to review their strategies for resolution of the A354 bolts problems.

August 15, 2013

Labor Day opening back on schedule.

TBPOC votes to open the span September 3 after a five-day closure spanning the Labor Day weekend.

September 2, 2013

Opening day of new east span.

The new east span of the San Francisco-Oakland Bay Bridge officially opens at 10:15 p.m. A celebration is held for those who worked on the bridge, the event includes souvenir Bay Bridge chocolate bars, a photo booth, and a series of speeches lasting more than two hours by various politicians and other speakers.

November 2013

Demolition of old span begins.

Demolition of the old east span starts with the removal of the upper deck roadway between the cantilever section's two peaks. The demolition is scheduled to be done by the end of 2016.

Report on anchor rod problems.

A report on the anchor rod problems prepared for Senator Mark DeSaulnier of the Committee on Transportation and Housing is released along with a supplemental report.

December 2013

Permanent fix for broken rods in place.

Caltrans completes the installation of saddles which replace the seismic safety function of the broken rods. The final cost of the saddles is approximately $25 million.

2014

January 2014

Senate committee hearing held.

The State Senate Transportation and Housing Committee holds a hearing looking into allegations that Caltrans allowed cracked welds to be included in the new east span and discouraged critics from putting their objections in writing.

Artists advocate for creative reuse of the old east span steel.

Various artists research how to gain access to some of the steel taken from the old east span for reuse.

February 2014

Leaks in new span discovered.

Caltrans discovers that rainwater is dripping into the steel structure beneath the road deck on the suspension part of the east span which is supposed to be watertight. The problem appears to be on the sides of the guardrails that face away from traffic. Other leaks are found from holes cut for electrical conduits needed for the bridge lighting.

April 2014

Old east span cut in half.

The old east span is cut in half by slicing through the metal sections of the cantilever section.

Rust found on new east span.

Rust is found on cable strands and rods inside one of the chambers where the suspension cable is attached.

May 2014

Lessons learned report.

Caltrans issues a lessons learned report on the Bay Bridge project.

July 2014

Report for Senator DeSaulnier issued.

A report prepared for Senator Mark DeSaulnier of the Senate Transportation and Housing Committee is issued on why the east span project was over budget and delivered late.

September 2014

Evaluation of the A354 rods released.

This study concludes that the 2008 rods on E2 failed because of hydrogen embrittlement and the remaining rods have protections that will prevent corrosion and future embrittlement.

October 2014

Investigation into water exposure of rods.

Engineers find standing water in 95 percent of the sleeves holding the tower's 423 anchor rods. Caltrans construction inspectors discover and document the T1 tower anchor rod grout conditions as deficient per contract plan and specification requirements. The contractor tensioned the rods after the fasteners had already been sealed with watertight grout and caulked thus creating gaps in the grout.

November 2014

Steel rods have gaps in protective grout.

A total of 135 of the 423 steel rods anchoring the tower have gaps in protective grout. The 25-foot-long metal rods anchor the tower to its foundation.

December 2014

Report on hydrogen embrittlement tests.

A report prepared for the Toll Bridge Program Oversight Committee is issued on the validity of Caltrans' hydrogen embrittlement tests.

Supplemental report on A354 rods issued.

A supplement to the 2013 report on the A354 steel rods is issued.

2015

February 2015

Rust and cracks found on tower rod.

Preliminary tests of a steel anchor rod removed from the tower reveal rust and tiny cracks.

March 2015

Caltrans announces winning bid for demolition of old east span superstructure.

Caltrans accepts a $69 million bid for part of the demolition of the east span. This contract will remove the steel truss spans and towers from the old bridge.

May 2015

First phase of tower anchor rod investigation is concluded.

Caltrans announces the completion of the first phase of the tower anchor rod investigation, releasing test results showing more than 99 percent of rods tested were not broken.

June 2015

Salvage steel to become art.

Salvaged steel from the old east span will be recycled into public art and history projects under a program supervised by the Oakland Museum of California.

June 11, 2015

Old bridge cantilever demolition competed.

Caltrans completes the demolition of the cantilever section of the old east span which began on November 5, 2013. The anticipated final cost for the demolition is $63.7 million.

September 2015

TBPOC votes to penalize American Bridge/Fluor.

The Toll Bridge Program Oversight Committee votes to penalize American Bridge/Fluor $11 million for the 2013 failure of steel rods as well as shoddy work that could threaten hundreds of other rods in the tower foundation.

October 2015

Maintenance and repair issues continue.

TBPOC funds the analysis and testing program that will produce the T1 tower anchor rods system evaluation and repair report. A maintenance peer review panel report cites concern for the integrity of the main cable from corrosion due to rainwater leaks.

December 2015

Steel awarded to art projects.

Salvaged steel from the old east span is awarded by the Bay Bridge Steel Program, administered by the Oakland Museum of California, to projects including a sculpture near the Petaluma River, a gate for an arts center in Joshua Tree, two public installations near the bridge and an observation platform for a park in San Francisco.

2016

January 2016

Leaks plugged with caulking.

Water that is flowing in through gaps in the roadway side of the guardrails is fixed by applying caulk to the joint between the asphalt road surface and the guardrails.

February 2016

Major section of old bridge brought down.

Caltrans crews begin lowering the first 504-foot truss span of the old east span.

April 2016

Second truss removed.

Caltrans lowers the second 504-foot truss span of the old east span.

May 2016

Planned approved to keep water from corroding rods.

The Toll Bridge Program Oversight Committee approves a $15 million plan to keep water from corroding rods by re-grouting sleeves that hold more than 420 anchor rods at the base of the tower.

June 30, 2016

Anchor rod report released.

The T1 tower anchor rods system evaluation and repair report is released.

July 2016

Fourth and fifth trusses removed.

Caltrans lowers the last two of five 504-foot trusses as demolition of the old east span continues.

October 2016

Bay Bridge bike path opened.

The bike path on the new Bay Bridge to Yerba Buena Island and Treasure Island opens to the public.

November 2016

288-foot trusses are lowered.

The first of fourteen 288-foot trusses of the old east span are removed. The complete demolition of the old bridge is expected to be completed at the end of 2018.

2017

January 2017

More steel awarded for art projects.

Five more winners (for a total of 15) of sections of steel from the old east span are announced.

March 2017

Last steel truss removed.

The last steel truss span of the old east span is lowered and disassembled.

2018

June 2018

Settlement reached with bridge contractor.

A settlement is reached with American Bridge/Fluor under which it will receive $25.5 million and a $8.5 million fine against it will be waived. The state now closes out its $2 billion contract with American Bridge/Fluor for its work on the Bay Bridge.

August 2018

State auditor report issued.

A report is issued by the state auditor on implementing lessons learned on the Bay Bridge project.

September 8, 2018

Demolition of old bridge completed.

The marine foundations of the last two remaining piers of the old east span are imploded. The demolition of the old Bay Bridge is complete.

Appendices

Appendix A – News Articles and Newletters

San Francisco-Oakland Bay Bridge East Span Replacement : Online Newspaper Highlights 1996-2019

Metropolitan Transportation Commission, 2021.
http://files.mtc.ca.gov/library/pub/47950.pdf

A chronological compilation of articles available online related to the replacement of the east span of the San Francisco-Oakland Bay Bridge.

San Francisco-Oakland Bay Bridge East Span Replacement : Newspaper Clipping Highlights

Metropolitan Transportation Commission, 1989-2014.
http://files.mtc.ca.gov/library/pub/23223_v1_TOC.pdf
http://files.mtc.ca.gov/library/pub/23223_v2_TOC.pdf
http://files.mtc.ca.gov/library/pub/23223_v3_TOC.pdf
http://files.mtc.ca.gov/library/pub/23223_v4_TOC.pdf
http://files.mtc.ca.gov/library/pub/23223_v5_TOC.pdf
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http://files.mtc.ca.gov/library/pub/23223_v10_TOC.pdf
http://files.mtc.ca.gov/library/pub/23223_v11_TOC.pdf
http://files.mtc.ca.gov/library/pub/23223_v12_TOC.pdf
http://files.mtc.ca.gov/library/pub/23223_v13_TOC.pdf

Newspaper articles from the collapse of the bridge in 1989 to the completion of the replacement project in 2014. The table of contents for each volume is available online; the news articles are available in the MTC-ABAG Library.

East Span News: The Newsletter of the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project

California Department of Transportation, 1997-2002.
http://files.mtc.ca.gov/library/pub/non/22330_1.pdf
http://files.mtc.ca.gov/library/pub/non/22330_2.pdf
http://files.mtc.ca.gov/library/pub/non/22330_3.pdf
http://files.mtc.ca.gov/library/pub/non/22330_4.pdf
http://files.mtc.ca.gov/library/pub/non/22330_5.pdf

Bay Bridge News: The Newsletter of the San Francisco-Oakland Bay Bridge

Toll Bridge Program Oversight Committee, 2006-2013.

http://files.mtc.ca.gov/library/pub/non/17522_01.pdf
http://files.mtc.ca.gov/library/pub/non/17522_02.pdf
http://files.mtc.ca.gov/library/pub/non/17522_03.pdf
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http://files.mtc.ca.gov/library/pub/non/17522_33.pdf
http://files.mtc.ca.gov/library/pub/non/17522_34.pdf
http://files.mtc.ca.gov/library/pub/non/17522_35.pdf

Appendix B – Information About the East Span Bay Bridge Special Collection

For a listing of all the items in the Special Collection go to the Metropolitan Transportation Commission website (https://mtc.ca.gov) and navigate to the MTC-ABAG Library webpage. The Library catalog contains records for all of the items in the "East Span Bay Bridge Special Collection." The bibliography lists only a selection of the documents in the full collection.

The San Francisco-Oakland Bay Bridge Replacement Project: A Selected Bibliography From the MTC-ABAG Library East Span Bay Bridge Special Collection

Metropolitan Transportation Commission, 2021.
http://files.mtc.ca.gov/library/pub/48081.pdf

A selected bibliography of the documents in the MTC-ABAG Library East Span Bay Bridge Special Collection.