

CONSTRUCTION STATISTICS 2014

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES



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DIVISION OF ENGINEERING SERVICES

**CONSTRUCTION STATISTICS BASED ON BID OPENINGS
2014**

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Cover:
Fort Goff Creek Bridge
02-Sis-96

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**DIVISION OF ENGINEERING SERVICES
BRIDGE SQUARE FOOT COST SUMMARY
2014**

| Bridge Code | BRIDGE TYPE | TOTAL NUMBER OF BRIDGES | NUMBER OF BRIDGES WIDENED | SQFT OF DECK | TOTAL AMOUNT | AVERAGE COST/SQFT | FHWA AMOUNT | FHWA AVERAGE COST/SQFT |
|---------------|-----------------------|----------------------------------|---------------------------------|-----------------|----------------------|----------------------|----------------------|------------------------------|
| 10 | RC SLAB | 3 | 0 | 36,218 | \$10,510,858 | \$290 | \$6,619,268 | \$183 |
| 20 | RC T-BEAM | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| 21 | RC U GIRDER | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| 22 | RC BOX GIRDER | 4 | 2 | 39,144 | \$12,849,318 | \$328 | \$8,984,209 | \$230 |
| 30 | CIP/PS U GIRDER | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| 31 | CIP/PS BOX GIRDER | 14 | 2 | 291,774 | \$75,605,272 | \$259 | \$54,206,918 | \$186 |
| 32 | CIP/PS SLAB | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| 40 | PC/PS SLAB | 3 | 0 | 13,021 | \$5,323,312 | \$409 | \$4,364,330 | \$335 |
| 41 | PC/PS "I" GIRDER | 4 | 0 | 69,081 | \$23,941,920 | \$347 | \$16,774,478 | \$243 |
| 42 | PC/PS "T" GIRDER | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| 43 | PC/PS "INV T" GIRDER | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| 44 | PC/PS BOX GIRDER | 2 | 0 | 71,803 | \$10,720,331 | \$149 | \$8,097,289 | \$113 |
| 45 | PC/PS BULB TEE GIRDER | 3 | 0 | 38,171 | \$11,641,623 | \$305 | \$9,025,671 | \$236 |
| 45A | WIDE FLANGE GIRDER | 1 | 0 | 22,929 | \$7,459,364 | \$325 | \$5,374,104 | \$234 |
| 46 | PC/PS BOX GIRDER-SEG | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| 50 | STEEL GIRDER | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$0 |
| TOTALS | | 34 | 4 | 582,141 | \$158,051,998 | | \$113,446,267 | \$195 |

** "FHWA Amount" and "FHWA Average Cost/SQFT" are calculated using "Bridge Costs Only" as defined by the Federal Highway Administration. The "Bridge Cost Only" is the sum of the "Superstructure" and "Substructure" bridge items, listed in Chapter 11 of the Bridge Design Aids Manual, multiplied by the bid item price. The "Superstructure" and "Substructure" bridge items do not include items such as: time related overhead, mobilization, bridge removal, approach slabs, slope paving, soundwalls or retaining walls.

The "TOTAL AMOUNT" and "AVERAGE COST/SQFT" includes all bid items **excluded** from "Bridge Cost Only".

2014 CONTRACT UNIT PRICES

Contract Cost Data and Standard Item Codes can be found on the California Department of Transportation website:

<http://www.dot.ca.gov/>

CONTRACT COST DATA

<http://sv08data.dot.ca.gov/contractcost/>

STANDARD ITEM CODES

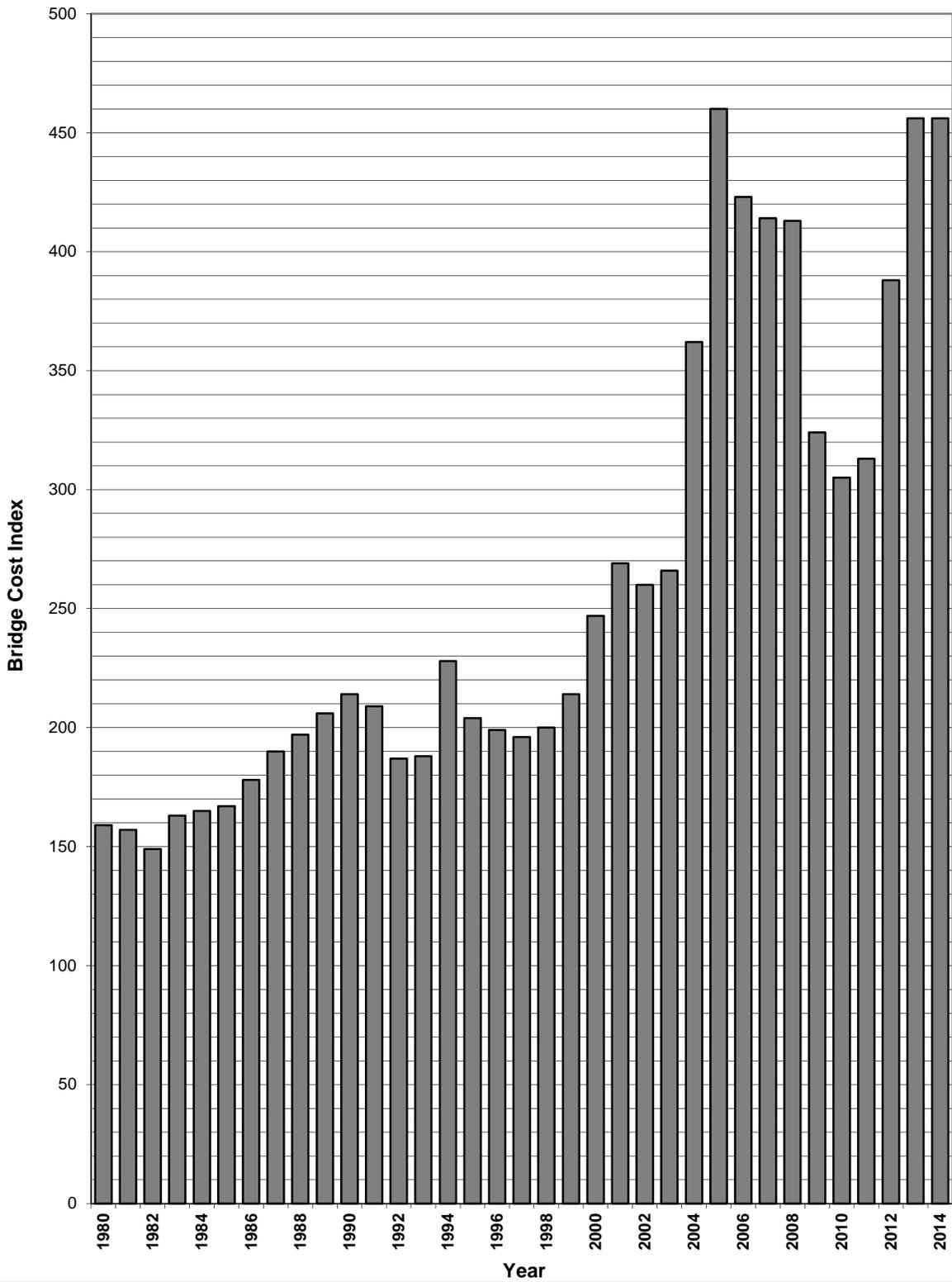
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

DIVISION OF ENGINEERING SERVICES

BRIDGE CONSTRUCTION COST INDEX

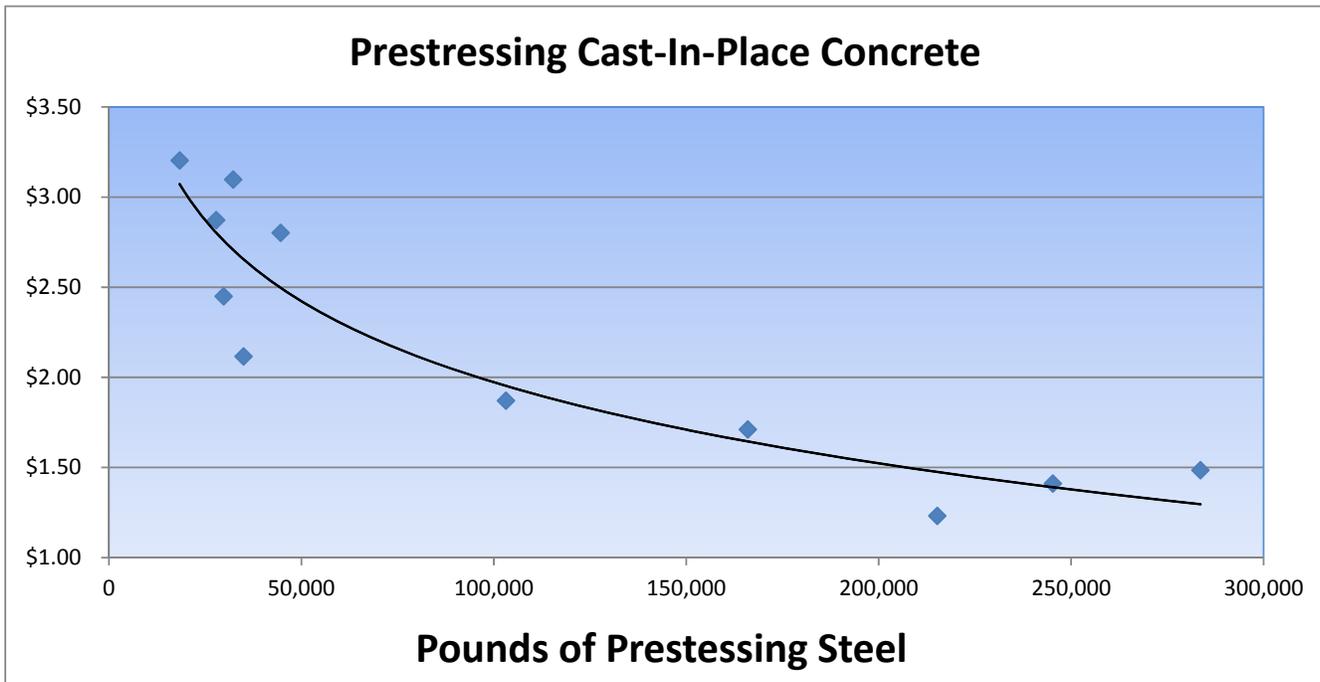
| YEAR | 1940 BASE | 1967 BASE | 1977 BASE |
|------|-------------|-------------|-------------|
| | INDEX VALUE | INDEX VALUE | INDEX VALUE |
| 1940 | 100 | 105 | 45 |
| 1974 | 689 | 225 | 97 |
| 1975 | 649 | 212 | 91 |
| 1976 | 646 | 212 | 91 |
| 1977 | 710 | 232 | 100 |
| 1978 | 809 | 264 | 114 |
| 1979 | 1093 | 357 | 154 |
| 1980 | 1129 | 369 | 159 |
| 1981 | 1115 | 364 | 157 |
| 1982 | 1058 | 346 | 149 |
| 1983 | 1157 | 378 | 163 |
| 1984 | 1172 | 383 | 165 |
| 1985 | 1186 | 387 | 167 |
| 1986 | 1264 | 413 | 178 |
| 1987 | 1349 | 441 | 190 |
| 1988 | 1399 | 457 | 197 |
| 1989 | 1463 | 478 | 206 |
| 1990 | 1519 | 496 | 214 |
| 1991 | 1484 | 485 | 209 |
| 1992 | 1328 | 434 | 187 |
| 1993 | 1335 | 436 | 188 |
| 1994 | 1619 | 529 | 228 |
| 1995 | 1448 | 473 | 204 |
| 1996 | 1413 | 462 | 199 |
| 1997 | 1392 | 455 | 196 |
| 1998 | 1420 | 464 | 200 |
| 1999 | 1519 | 496 | 214 |
| 2000 | 1754 | 573 | 247 |
| 2001 | 1910 | 624 | 269 |
| 2002 | 1846 | 603 | 260 |
| 2003 | 1889 | 617 | 266 |
| 2004 | 2570 | 840 | 362 |
| 2005 | 3266 | 1067 | 460 |
| 2006 | 3003 | 981 | 423 |
| 2007 | 2939 | 960 | 414 |
| 2008 | 2932 | 958 | 413 |
| 2009 | 2300 | 752 | 324 |
| 2010 | 2166 | 708 | 305 |
| 2011 | 2222 | 726 | 313 |
| 2012 | 2755 | 900 | 388 |
| 2013 | 3238 | 1058 | 456 |
| 2014 | 3238 | 1058 | 456 |

**BRIDGE CONSTRUCTION COST INDEX
(1980 = 100)**



Prestressing Cast-In-Place Concrete

| Bid Open Date | Contract Number | Contract Price | Approximate Quantity (lbs) | Contract Price/lb |
|---------------|-----------------|----------------|----------------------------|-------------------|
| 01/09/14 | 07-215954 | \$421,100.00 | 283,600 | \$1.48 |
| 03/18/14 | 04-0A7104 | \$265,000.00 | 215,190 | \$1.23 |
| 03/26/14 | 06-487504 | \$58,900.00 | 18,387 | \$3.20 |
| 04/17/14 | 12-0F96C4 | \$74,000.00 | 34,968 | \$2.12 |
| 06/19/14 | 11-257154 | \$125,000.00 | 44,623 | \$2.80 |
| 06/26/14 | 11-263304 | \$100,000.00 | 32,289 | \$3.10 |
| 07/24/14 | 08-3401U4 | \$73,000.00 | 29,806 | \$2.45 |
| 10/09/14 | 11-0223U4 | \$346,000.00 | 245,225 | \$1.41 |
| 10/23/14 | 12-0F96A4 | \$284,000.00 | 165,980 | \$1.71 |
| 11/06/14 | 06-432604 | \$80,000.00 | 27,854 | \$2.87 |
| 11/14/14 | 08-043514 | \$193,000.00 | 103,159 | \$1.87 |



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN - OFFICE OF STRUCTURE OFFICE ENGINEER

COMPARATIVE BRIDGE COSTS

JANUARY 2015

The following tabular data provides some **general guidelines** for structure type selection and its relative cost. These costs should be used only for **preliminary estimates** until more detailed information is developed. The following factors must be taken into account when determining a price within the cost range:

Factors for Lower End of Cost Range

Factors for Higher End of Cost Range

| | |
|---|---|
| Short Spans, Low Structure Height, No Environmental Constraints, Large Project, No Aesthetic Issues, Dry Conditions, No Bridge Skew | Long Spans, High Structure Height, Environmental Constraints, Small Project, Aesthetic Issues, Wet Conditions (cofferdams required), Skewed Bridges |
| Urban Location | Remote Location |
| Seat Abutment | Cantilever Abutment |
| Spread Footing | Pile Footing (Large Diameter Piling) |
| No Stage Construction | 2-Stage Construction |

Factors that will increase the price from 25% - 150% over the high end of the cost range

| | |
|---|----------------------------------|
| Structures with more than 2 construction stages | Unique substructure construction |
| Widenings less than 15 Ft. | |

| STRUCTURAL SECTION | (STR. DEPTH / MAX SPAN) | | COMMON SPAN RANGE (feet) | * COST RANGE (price/sqft) | REMARKS |
|-----------------------|-------------------------|-------------------|--------------------------|---------------------------|---|
| | SIMPLE | CONTINUOUS | | | |
| RC SLAB | 0.06 | 0.045 | 16 - 44 | 90 - 200 | CAST-IN -PLACE CONCRETE BRIDGES ACCOUNT FOR APPROXIMATELY 65% OF BRIDGES BUILT ON CALIFORNIA STATE HIGHWAYS |
| RC T-BEAM | 0.07 | 0.065 | 40 - 60 | 155 - 250 | |
| RC BOX | 0.06 | 0.055 | 50 - 120 | 160 - 250 | |
| CIP/PS SLAB | 0.03 | 0.03 | 40 - 65 | 115 - 200 | |
| CIP/PS BOX | 0.045 | 0.04 | 100 - 250 | 110 -315 | |
| PC/PS SLAB | 0.03 (+3" AC) | 0.03 (+3" AC) | 20 - 50 | 250 - 450 | NO FALSEWORK REQUIRED |
| PC/PS T, TT, ⊥ | 0.06 (+3" AC) | 0.055 (+3" AC) | 30 - 120 | No Current Cost Data | |
| BULB TEE GIRDER | 0.05 | 0.045 | 90 - 145 | 115 - 290 | |
| WIDE FLANGE GIRDER | 0.045 | 0.04 | 90 - 180 | 125 -250 | |
| PC/PS I | 0.055 | 0.05 | 50 - 120 | 150 - 325 | |
| PC/PS BOX | 0.06 | 0.045 | 120 - 200 | 120 - 270 | |
| STRUCT STEEL I GIRDER | 0.045 | 0.04 | 60 - 300 | 250 - 450 | |

NOTE: Removal of a box girder structure costs from \$8 - \$15 per square foot.

* "Price/SQFT" is calculated using "Bridge Costs Only" as defined by the Federal Highway Administration. The "Bridge Cost Only" is the sum of the "Superstructure" and "Substructure" bridge items, listed in Chapter 11 of the Bridge Design Aids Manual, multiplied by the bid item price. The "Superstructure" and "Substructure" bridge items do not include items such as: time related overhead, mobilization, bridge removal, approach slabs, slope paving, soundwalls, or retaining walls.