

Caltrans Statewide Historic Bridge Inventory Update
Bridges that were not individually surveyed and evaluated

**This Excerpt contains the main report. See
separate files for Appendices A, B and C**

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I. Summary

The California Department of Transportation (Caltrans) carried out a statewide survey of historic bridges in the late 1980s, which included bridges that were at least fifty years old at that time. At the conclusion of that survey, each bridge was assigned one of five National Register status codes:

Category 1: listed on the National Register of Historic Places

Category 2: eligible for National Register listing

Category 3: may be eligible for National Register listing

Category 4: unevaluated

Category 5: ineligible for National Register listing

The present Statewide Historic Bridge Inventory Update includes state highway and local road bridges that were constructed prior to 1960. This update identified 45 bridges that are eligible for listing in the National Register of Historic Places, in addition to the approximately 300 bridges that are currently listed in the National Register or have previously been determined eligible for listing.

A series of survey reports, organized by bridge type, were completed by Caltrans staff or by consultants as part of the Statewide Historic Bridge Inventory Update. They include the following:

- Masonry arch bridges (June 2003)
- Concrete box girder bridges (April 2004)
- Timber truss, concrete truss and suspension bridges (April 2004)
- City of Los Angeles monumental bridges (May 2004)
- Metal truss bridges (March 2004, revised September 2004)
- Concrete arch bridges (April 2004, revised October 2004)
- Common bridge types (November 2004)
- Tunnels (in progress)

The present report covers bridges that were not evaluated in the Bridge Inventory Update. Some of these have previously been listed in the National Register or determined eligible for listing, some remain unevaluated, and many are considered ineligible for National Register listing without being individually surveyed and evaluated because they lack integrity or are typical examples of common bridge types. There are 8,587 roadway bridges in California that were

constructed prior to 1960. Of these, 584 (6.8 percent) were surveyed and evaluated in the reports listed above. Of the remaining bridges, 123 (1.4 percent) were previously listed in the National Register or determined eligible, and were not re-evaluated in the Bridge Inventory Update. These 123 bridges are listed in Appendix A. Another 599 bridges (7.0 percent) remain unevaluated because they are associated with larger properties (such as railroads or canals) that have not yet been evaluated. These bridges are discussed below in Section II and are listed in Appendix B. The remaining 7,281 bridges (84.8 percent) are considered ineligible for National Register listing without being individually surveyed and evaluated. As discussed below in Section III, these are bridges that lack integrity or have no potential to meet the National Register criteria. They are listed in Appendix C.

II. Bridges that remain unevaluated

Some of the bridges that were not individually surveyed and evaluated were given a Category 4 (unevaluated) designation. These are bridges that do not appear to be individually significant, but are associated with larger properties that have not been evaluated. A total of 599 bridges were given this designation, accounting for seven percent of the nearly 8,600 pre-1960 bridges in California.

The largest number of unevaluated bridges (233, or 39 percent of the Category 4 bridges) are structures that carry railroads over highways and local roads. Five others are railroad tunnels or structures otherwise related to railroads, such as a roadway tunnel through a railroad embankment. All of these structures have the potential to be eligible for National Register listing as contributing components of historic railroads. These bridges and tunnels are distributed throughout the state, in 41 of California's 58 counties, with the largest number (53) in Los Angeles County.

Another 187 bridges (31 percent of the Category 4 bridges) are canal crossings. These are bridges that were constructed as an integral part of the canals that they cross and have the potential to be contributing components of historic canals. They represent only a small portion of all the state's canal bridges, since the great majority of the canal bridges in California were built well after the canals that they cross, and were built by the state or by local governments as roadway

improvements rather than as components of canal projects. Most of the 187 canal bridges that are proposed for Category 4 status were built by the U.S. Bureau of Reclamation as part of the Central Valley Project canals in the San Joaquin Valley. Consequently, more than 80 percent of the unevaluated canal bridges are located in Caltrans' Districts 6 and 10. Other canal bridges that remain unevaluated include those crossing the Tehama-Colusa Canal in Tehama County, the Putah South Canal in Solano County, and the All American Canal in Riverside and Imperial counties. In addition to canal crossings, there are 15 unevaluated bridges that are associated with other water conveyance and control facilities. These include six bridges over the Los Angeles Aqueduct in Inyo County, two other bridges over aqueducts, four flume overcrossings, and three bridges associated with a powerhouse, dam, and weir, respectively.

A third group, consisting of 136 unevaluated bridges, includes those on roads that appear to have some potential for National Register eligibility as historic roads. The longest of these, old Route 66 in San Bernardino County, includes 103 bridges between Barstow and the Arizona border. Most of these are timber stringer bridges, constructed in 1930 and widened in the early 1950s. In addition, thirteen bridges and four tunnels are part of the pending National Register nomination of the Arroyo Seco Parkway in Los Angeles County. These are structures that were not previously determined eligible as contributors to the parkway, since the property being nominated is somewhat longer than the property that was initially determined eligible. Four other bridges and two tunnels are on State Route 2 (the Angeles Crest Highway) in Los Angeles County, six bridges are on State Route 160 in Sacramento, and four are on State Route 74 in Riverside County.

Of the remaining unevaluated bridges, 17 are associated with industrial facilities, carrying pipes, conveyors, or pedestrian passageways over roads. Four bridges were given a Category 4 status that are known to have been evaluated by consultants, but those evaluations have not been sent to the State Historic Preservation Officer for review and concurrence. In addition, one bridge is a brick archway that is part of a building but spans a road, and one bridge was given a Category 4 designation in the original statewide bridge survey of the 1980s, and remains unevaluated because it has been relinquished to private ownership and is not publicly accessible.

While all of these bridges are given a Category 4 designation in the Statewide Historic Bridge Inventory Update, their status will change with future evaluations of the larger properties with which they are associated. For railroads, canals, and other properties that are determined eligible for National Register listing, the bridges that are determined to be contributors will have a change in their National Register status to Category 2 (eligible for National Register listing). In cases where these railroads, canals, and other properties are determined to be ineligible for National Register listing, or where the associated bridges are determined to be non-contributors, the bridges' National Register status will change to Category 5 (ineligible for National Register listing).

III. Bridges determined ineligible for National Register listing

A total of 7,281 bridges, approximately 85 percent of all pre-1960 bridges in California, were determined ineligible without formal survey and evaluation and were given a Category 5 designation. These bridges are considered to be ineligible for National Register listing based on a review of information available at Caltrans' Headquarters in Sacramento and other repositories, either because they lack integrity due to recent alterations or because they clearly have no potential to meet the National Register criteria. The percentage of pre-1960 bridges that were not surveyed varies greatly by bridge type, as shown in the table on the following page. For some types, almost every extant example was surveyed and evaluated, while for other types, very few of the bridges were surveyed.

Pre-1960 bridges surveyed and not surveyed

<u>Bridge type</u>	<u>Total</u>	<u>Surveyed</u>	<u>%</u>	----- not surveyed -----		
				<u>Cat. 1&2</u>	<u>Cat. 4</u>	<u>Cat. 5</u>
Masonry arch	43	42	97.7	0	1	0
Truss	295	280	94.9	0	15	0
Concrete arch	264	197	74.6	0	10	57
Suspension	7	5	71.4	2	0	0
Tunnel	44	15	34.1	11	10	8
Box girder	602	25	4.2	15	16	546
Concrete beam	1,977	13	0.7	56	166	1,742
Steel beam	1,522	4	0.3	20	229	1,269
Concrete slab	2,199	2	0.1	18	24	2,155
Culvert	1,104	1	0.1	1	18	1,084
Timber stringer	<u>530</u>	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>110</u>	<u>420</u>
TOTAL	8,587	584	6.8	123	599	7,281

Concrete arches

Fifty-seven concrete arch bridges (21.6 percent of the pre-1960 concrete arches) were determined ineligible for National Register listing in the Bridge Inventory Update without being surveyed. These bridges are all relatively small, closed-spandrel arches, and none are early examples of the type or possess significant architectural treatment or ornamental features. Some of the bridges in this group have suffered a substantial loss of integrity due to widening or other alterations since 1960, and none have any potential to meet the National Register eligibility criteria. The bridges in this group that were evaluated in the original statewide historic bridge survey, which used a numerical scoring system for concrete arches, all received very low scores.

Tunnels

Eight of the 44 pre-1960 tunnels (18.2 percent) were determined ineligible without being surveyed. One of these lacks integrity due to extensive alterations, and the other seven are relatively short structures, constructed from the late 1920s to the early 1950s, which lack engineering or aesthetic distinction and are not associated with significant events in California history.

Concrete box girders

The concrete box girder bridge was introduced to California only in the 1930s, and did not become a common type until the early 1950s. Consequently, no examples of this bridge type were included in the original bridge survey conducted in the 1980s.

An initial review of the state's 602 pre-1960 box girder bridges was carried out using information available at Caltrans' Headquarters in Sacramento, including photographs, construction drawings, inspection reports, and other records. Based on this review, 25 bridges were selected for individual survey and evaluation, representing the earliest examples that retain integrity and those which exhibit the highest levels of technical and aesthetic merit. The box girder bridges that were not selected for individual survey and evaluation either lack integrity due to later widening or are typical and undistinguished examples of the type. These 546 bridges represent 90.7 percent of all pre-1960 box girder structures.

Common bridge types

For the most common bridge types (concrete T-beams or girders, steel beams, concrete slabs, culverts, and timber stringers) only twenty bridges were surveyed and evaluated, representing just 0.3 percent of the total pre-1960 population of 7,332 bridges of these types. As with the concrete arches, tunnels, and box girder bridges, an initial review was undertaken to identify potentially significant examples, using construction drawings, photographs, maps, and other records. Most of the significant examples of these common bridge types were determined eligible for National Register listing in the original statewide bridge survey. Those evaluated in the Bridge Inventory Update were primarily distinctive examples that were not yet fifty years old at the time of the original bridge survey or that were given a Category 3 (may be eligible) status in the original survey. Included were several bridges from the 1930s and 1940s with Art Deco or Streamline Moderne styling that were less than fifty years old or had just recently turned fifty years old at the time of the original survey. In addition, the Bridge Inventory Update included four of the earliest examples of prestressed concrete construction, a technology introduced to California only in the early 1950s.

National Register Criterion A

The initial review of pre-1960 bridges identified the technically and aesthetically distinctive examples that had some potential to meet National Register Criterion C. This review also identified bridges that appeared to have some potential to meet Criterion A for their association with important events in the state's history. California roadway bridges may meet National Register Criterion A if they have important associations with trends or events in transportation development, local or regional economic growth, military history, tourism, resource extraction, or other aspects of California history. However, bridges are inherently important to the communities that they serve, and a bridge must possess significance beyond that of a typical bridge in order to meet National Register Criterion A.

Many of the state's bridges are not the original crossings at their locations, but are replacements for earlier structures that had become structurally or functionally obsolete. In most cases, a replacement bridge would be only an incremental improvement to the existing transportation infrastructure and would not be considered historically significant. Similarly, minor creek crossings and other small bridges would generally not represent significant transportation improvements that would qualify for National Register listing under Criterion A. Consequently, only a small portion of the state's bridges were determined to possess any potential to meet Criterion A, and many of these were determined eligible in the original statewide bridge survey or have already been listed in the National Register.

A total of seven bridges, constructed between 1926 and 1932, were determined eligible for National Register listing under Criterion A in the Bridge Inventory Update. Two of these meet Criterion A only, and the other five meet both Criteria A and C. Four of the seven bridges that meet Criterion A are important links in the former State Route 99 (now State Route 263), the main route from northern California to Oregon prior to the construction of Interstate 5. One bridge, 55-0003, is an important link in the Pacific Coast Highway and facilitated the rapid development of the Orange County coastal communities of Laguna Beach and South Laguna. Two other bridges, 33C0215 and 56C0072, are significant for their association with the planning and development of the cities of Oakland and Riverside, respectively.