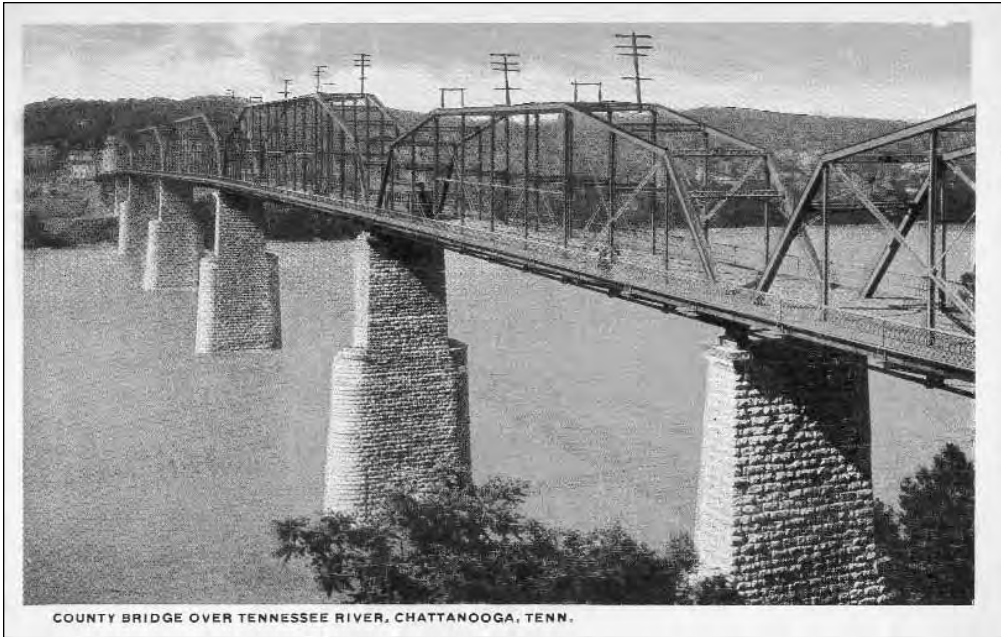


7

BRIDGE PRESERVATION EFFORTS IN TENNESSEE





Walnut Street Bridge: Once scheduled for demolition, the Walnut Street Bridge (#20, 33-03544-00.12) spanning the Tennessee River in downtown Chattanooga in Hamilton County, is now part of a thriving riverfront development and open only to pedestrian traffic (Author's Collection).



Collins River Bridge: Also once scheduled for demolition, the Collins River Bridge (#112, 89-04261-11.60) at Rock Island in Warren County is now part of a trail system in the Rock Island State Park (Author's Collection).

Bridge Preservation

In the past, Tennessee's historic preservation community generally did not assign a high priority to the issue of preserving historic bridges. The primary exception was covered bridges that have been perceived, almost universally, as important local landmarks for many years. Thus, when the Tennessee Department of Transportation (TDOT) started this survey, little documented information on bridges existed, and few people showed any interest in truss and arch bridges.



Figure VII-01: Photograph of the Massengill Bridge in Anderson County as demolition begins (#87, 01-A0088-03.53).

Using the National Register of Historic Places as an indication of the interest in recognizing historic significance, prior to 1980 in Tennessee, the National Register contained only 564 listings of which only three were individually listed bridges (two covered and one masonry arch). Historic districts contained eight bridges, but only four of the National Register nominations even mentioned the bridges as contributing properties. Table VII-01 contains information on these early National Register listings.

During this century, when public agencies chose to retain or renovate old bridges rather than demolish them, practical considerations such as cost instead of their historical merits were the deciding factors. For instance in the late 1960s, rather than replace either the 1929-1930 Hammond Memorial Bridge in Sullivan County (#131, 82-SR036-05.01) or the 1927-1929 Old Hickory Bridge in Davidson County (#122, 19-SR045-02.01), TDOT chose to build paired one way bridges. For the latter project, TDOT won a Historic Preservation Award from the Metropolitan Davidson County Historical Commission.

**TABLE VII-01: BRIDGES LISTED IN THE NATIONAL REGISTER
PRIOR TO 1980**

COUNTY & BRIDGE NUMBER	# IN CH. 6	CROSSING	TYPE	DATE LISTED NOMINATION NAME & NOMINATION CITATION
Anderson 01-SR071-04.79	136	Buffalo Creek	1 Closed Spandrel Arch	1975, Norris Historic District Not mentioned
Carter 10-03939-00.10	115	Doe River	3 Closed Spandrel- Ribbed Arches	1973 Elizabethton Historic District Not mentioned
Carter 10-A0398-00.01	8	Doe River	1 Covered Howe truss	1973, Elizabethton Historic District, Contributing
Cheatham 11-NonHighway-1	22	Sycamore Creek	2 Cable-Stayed Suspension Spans	1979 Sycamore Mills Site Contributing
Davidson 19-NonHighway-9	33	Richland Creek	1 Double Intersection Warren Pony	1969 Belle Meade Not mentioned
Fentress 25-SR028-29.24	150	Wolf River	1 Pratt Through	1973, Sargeant York Historic Area, Not mentioned
Grundy 31-NonHighway-1	N/A	Elk River	6 Masonry Arches	1977, Elkhead Stone Arch Bridge, Individually Listed (collapsed & delisted in 1986)
Marion 58-NonHighway-1	N/A	Sequatchie River	1 Pratt Through	1977, Ketner's Mill and Bridge Contributing (demolished 1978)
Obion 66-NonHighway-1	67	Obion River Drainage Canal	1 Covered Kingpost	1978, Parks Covered Bridge Individually Listed (moved and delisted in 1998)
Sevier 78-00496-07.09	30	Boyd's Creek	1 Masonry Arch	1975, Brabson's Ferry Plantation, Not mentioned
Sevier 78-A0324-00.58	4	E Fork Little Pigeon River	1 Covered Queenpost	1975, Harrisburg Covered Bridge, Individually listed
Shelby 79-E0578-00.21	44	Railroads	1 Closed Spandrel Arch	1978, Elmwood Cemetery Office and Entrance Bridge Contributing

Other renovations, while physically retaining the bridges, have been less successful from a preservation stance and reflect the inherent problems in trying to bring historic bridges to current legal standards. TDOT chose to widen the narrow two-lane 1926-1927 Big Turnbull Creek Bridge in Cheatham County (11-01948-00.45), a three span double ribbed open spandrel arch, by adding an eight-foot wide girder span immediately adjacent to it. The project retained the original post and rail railing on one side but added a modern parapet rail to the other side. The original arch is "intact," but the bridge is too altered to be eligible for the National Register. TDOT developed a more sympathetic design for the 1929 Time Line Bridge (18-SR001-34.20), also a narrow two lane dual ribbed concrete arch. In 1978, TDOT widened the two-ribbed arch substructure with an identical third rib. Modern parapet rails replaced the original railing. For this project, TDOT won design awards from the Portland Cement Association and the Pre-Stressed Concrete Institute. Even so, due to the alterations, the bridge is not eligible for the National Register.

Abandonment of bypassed bridges resulted in the preservation of a wide variety of historic bridges. For these bridges, convenience more often than conscious intent resulted in their "preservation." Up until recently, government entities such as TDOT, counties, or cities commonly bypassed and abandoned the old bridge because it eliminated demolition costs. For instance, TDOT bypassed the Sycamore Mills Bridge in Cheatham County (#22, 11-NonHighway-1) in the 1930s and it reverted to use on a farm road. TDOT bypassed the Brown Creek Bridge in Davidson County (#13, 19-NonHighway-8) in the late 1920s because it carried a water main. Because of reduced service due to changes in traffic patterns or as a result of new bridges being built nearby, individual counties have removed bridges from service, a form of abandonment. Table VII-02 contains information about bridges which counties have closed to traffic but left in place. Examples include the Kelso Bridge in Lincoln County (#6, 52-A0183-05.54), the Central Holston Bridge in Sullivan County (#39, 82-A0872-00.05), and the Halls Mill Bridge in Robertson County (#49, 74-00979-01.58). Technically, the counties have not replaced these bridges and could qualify them for replacement projects. The greatest likelihood of this occurs when TDOT offers a county one hundred percent federal or state funding for a new bridge. For instance, rather than replacing the Lea Bridge (#12, 06-A0163-00.19) through the Highway Bridge Rehabilitation and Replacement Program, which required a twenty percent local match, Bradley County chose to barricade the bridge, which was located on a little used local road. However, when TDOT offered the county a one hundred percent federal and state funded replacement bridge, the county accepted. If the county had had to bear twenty or even ten percent of the cost, it is unlikely the county would have chosen to replace this seldom-used bridge.

**TABLE VII-02: NATIONAL REGISTER LISTED OR ELIGIBLE BRIDGES
REMOVED FROM SERVICE**

COUNTY & NUMBER	# IN CH. 6	CROSSING	TYPE	DISPOSITION
Blount 05-NonHighway-1	98	Little River	3 Closed Spandrel Arches	Road segment and bridge bypassed circa 1960s
Cheatham 11-NonHighway-1	22	Sycamore Creek	2 Cable Stayed Suspension Spans	Bypassed circa 1930s and became farm road
Davidson 19-NonHighway-1	62	Richland Creek	1 Warren Pony	Driveway realigned
Davidson 19-NonHighway-2	16	South Harpeth River	1 Parker Through	County abandoned road segment and bridge
Davidson 19-NonHighway-8	13	Brown's Creek	1 Masonry Arch	TDOT built adjacent structure in 1925 but left old bridge in place to carry city water line
Dyer 23-NonHighway-1	92	Obion River	Pratt Pony Swing Bridge	Bridge barricaded and road abandoned in 1977; Corps later relocated main span to subdivision to span lake
Franklin 26-NonHighway-1	78	Factory Creek	2 Masonry Arches	County abandoned bridge and a short road segment in the 1940s
Giles 28-00966-03.54	9	Big Creek	1 Warren Pony	County removed bridge from service in 1984, barricaded, and transferred ownership to adjacent property owner
Giles 28-01891-04.77	79	Big Creek	2 Closed Spandrel Arches	By mid-1980s bridge and road segment redundant, county barricaded
Giles 28-A0002-00.23	105	Factory Creek	1 Closed Spandrel Arch-Ribbed	State improved road corridor in 1959, bypassing bridge in a curve, open until mid-1980s when county barricaded it
Giles 28-A0153-01.95	37	Elk River	1 Pennsylvania Petit Through	County removed deck and barricaded bridge in 1988
Giles 28-A0334-00.33	104	Jenkins Branch	1 Closed Spandrel	Mid-1980s, county closed road segment with bridge

584 BRIDGE PRESERVATION EFFORTS IN TENNESSEE

SURVEY REPORT FOR HISTORIC HIGHWAY BRIDGES

Giles 28-NonHighway-1	111	Elk River	1 Warren Through	In 1959 the state built new bridge and barricaded old bridge
Greene 30-NonHighway-1	102	Camp Creek	1 Open Spandrel Arch	County built new structure about 1960 and abandoned old bridge
Grundy 31-NonHighway-2	52	Firescald Creek	1 Masonry Arch	County bypassed and abandoned road segment and bridge in 1970s
Grundy 31-NonHighway-3	28	Scott Creek	2 Masonry Arches	County bypassed and abandoned road segment and bridge in 1970s
Hamilton 33-03544-00.12	20	Tennessee River	6 Camelback Through	Closed in 1978 due to critical condition; renovated for pedestrian use early 1990s
Hardin 36-NonHighway-1	40	Snake Creek	1 Pratt Through	County abandoned road & bridge in the 1970s and removed the approaches & deck
Hickman 41-NonHighway-1	55	Duck River	1 Pennsylvania Petit and 1 Pratt Through, and 1 Warren Pony	County built new structure in 1962 and abandoned old bridge; approaches and deck removed
Humphreys 43-NonHighway-1	42	Duck River	2 Camelback Through	About 1980 the county bypassed the bridge, removing the deck and approaches
Lincoln 52-A0183-05.54	6	Elk River	1 Bowstring Through	County removed bridge from service 1980s and barricaded
Lincoln 52-NonHighway-3	35	Elk River	1 Camelback Thru & 2 Pratt Pony	County abandoned road and bridge 1970s
Maury 60-NonHighway-1	41	Duck River	1 Pennsylvania Petit Through and 1 Pratt Half- hip Pony	County built new adjacent structure in 1960 and abandoned old bridge; approaches and deck removed
Maury 60-NonHighway-2	43	Duck River	1 Camelback Through	County built new adjacent structure in 1960 and abandoned old bridge; approaches and deck removed
Maury 60-NonHighway-4	94	Beard Branch	1 Closed Spandrel Arch	About 1959 TDOT bypassed & abandoned road segment & bridge
Meigs 61-NonHighway-1	65	Big Sewee Creek	1 Pratt Bedstead Pony	County abandoned road and bridge in the 1970s

Obion 66-NonHighway-2	83	Indian Creek	1 Warren Pony	Road and bridge abandoned about 1950
Perry 68-NonHighway-1	84	Buffalo River	1 Camelback Through and 2 Pratt Pony	County built new adjacent structure 1962 and abandoned old bridge; approaches and deck removed
Perry 68-NonHighway-2	54	Buffalo River	1 Camelback Through and 1 Pratt Pony	Road and bridge abandoned 1964; approaches and deck removed
Robertson 74-00979-01.58	49	Sulphur Fork Creek	1 Camelback Through	County removed bridge from service 1985 and barricaded
Robertson 74-NonHighway-1	2	Red River	2 Masonry Arches	In 1930s TDOT bypassed road segment with this bridge which is now used on farm road
Sequatchie 77-NonHighway-1	25	Sequatchie River	1 Pratt Through	TDOT built new bridge in 1950, abandoned old section of road; approaches and deck removed
Shelby 79-NonHighway-3	14	Mississippi River	4 Span Continuous and 1 Warren Deck	Built as railroad bridge with wagon traffic allowed by special permit; non-railroad use brief and sporadic; active railline
Shelby 79-NonHighway-4	77	Mississippi River	4 Span Continuous and 1 Warren Deck	TDOT built new adjacent structure in 1949 and barricaded lanes and pulled decking; active railline
Smith 80-NonHighway-3	57	Caney Fork River	1 Camelback Thru & 1 Pratt Deck	Road and bridge bypassed and barricaded in 1973
Stewart 81-NonHighway-2	38	South Cross Creek	1 Pratt Through	Road and bridge abandoned mid-1900s; Handicapped fishing pier and pedestrian trail
Sullivan 82-A0872-00.05	39	South Fork Holston River	1 Camelback and 1 Pratt Through	County removed bridge from service 1983 and barricaded
Sullivan 82-NonHighway-1	31	Beaver Creek	1 Pratt Through	TDOT bypassed and abandoned old bridge & road segment 1970s
Sumner 83-NonHighway-1	76	Caney Fork Creek	1 Warren Pony	TDOT bypassed and abandoned old bridge & road segment 1970s
Van Buren 88-NonHighway-1	61	Cane Creek	1 Pratt Through and 1 Warren Pony	Road and bridge abandoned about 1930; approaches and deck removed

In the past, government entities tended not to worry about future liability problems, ownership, or maintenance of bypassed bridges. However, more recently, public officials have raised questions about these concerns, and it is becoming increasingly difficult to bypass and barricade historic bridges. On current replacement projects when a bridge remains in place, which is possible only if the new bridge can be placed on a different alignment, the owner must find a recipient who will accept liability and maintenance of the old bridge and who will agree to preserve its historic features. Preservation in place through abandonment usually occurs only when the bridge can serve a non-vehicular use or if strong public sentiment exists for its preservation.

For instance, when TDOT and the City of Kingston Springs replaced the Kingston Springs Bridge in Cheatham County (#32, 11-01931-00.45), the City of Kingston Springs, as owner, wanted to retain the bridge because it provided access to the city's utility control and connected the city with a park. TDOT built the new bridge on a different alignment and bypassed the old bridge. TDOT placed vehicular barriers that allowed pedestrian access across the bridge and added fencing to the side railings for pedestrian safety. Local citizens perceived the covered Bible Bridge in Greene County (#108, 30-A0906-00.01) as a local landmark, and in cooperation with the county as owner, TDOT bypassed the Bible Bridge in a 1987-1988 project. TDOT placed vehicular barriers that allowed pedestrian access across the bridge and converted the old roadway into a park-like pull-off area. When TDOT scheduled the Sulphur Fork Bridge in Montgomery County (#21, 63-A0456-01.88) for replacement in 1989, the Tennessee Department of Conservation agreed to accept responsibility. TDOT bypassed the old bridge and added vehicular barriers and new safety railing in character with the truss. Also as part of the replacement project, TDOT sandblasted and painted the historic truss bridge. The Department of Conservation incorporated the bridge into the Port Royal State Park. In a similar manner, the Department of Conservation agreed to accept liability and maintenance for the Rock Island Bridge in Warren County (#112, 89-04261-11.60) when TDOT scheduled it for replacement. TDOT bypassed the historic bridge and incorporated it into a trail in the Rock Island State Park in 1986 where it could be used as a fishing pier on the Collins River above the Great Falls Dam.

Figure VII-02: Photograph of the Rock Island Bridge in Warren County (#112, 89-04261-11.60).



Today, almost universally, when TDOT or a local municipality schedules a historic bridge for replacement the first question from preservationists is why can it not be rehabilitated. It is the policy of the Federal Highway Administration (FHWA) to fund the rehabilitation of a bridge only if the rehabilitation corrects the bridge's major safety defects and restores its structural integrity. However, the original designs of most of these bridges (primarily narrow widths and lighter weight limits) are automatically deficient by modern standards and preclude their rehabilitation through most federally funded programs. Local governments must then choose between a locally funded rehabilitation and a federal or state funded project in which the local government is responsible for only twenty percent of the cost of a new bridge. In response to this dilemma, FHWA placed more emphasis on rehabilitating historic bridges in its Surface Transportation and Uniform Relocation Assistance Act of 1987 that declared it to be "in the public interest to encourage the rehabilitation, reuse and preservation of bridges significant in American history, architecture and culture." However, on a practical level, substantial rehabilitation of historic bridges for continued highway use is generally uneconomical or unfeasible for a variety of reasons. The 1987 act also gave the FHWA the authorization to spend up to the demolition cost for mitigation measures such as relocation of historic truss spans.

Even when local municipalities choose to rehabilitate their historic bridges rather than replace them, the narrow widths or other design deficiencies can create problems. In 1988, TDOT in cooperation with Knox County scheduled for replacement the Cowards Mill Bridge near Knoxville (47-CO199-01.93), an 1895 one lane masonry arch bridge that had been determined eligible for the National Register. Area residents opposed replacing the bridge due to its historic nature and because they felt a modern two-lane bridge with improved approaches would contribute to high-speed traffic in their neighborhood. TDOT developed plans for a new bridge on new alignment and entered negotiations with a local citizen who had agreed to accept liability and maintenance for the arch bridge and had agreed to preserve it. However, due to the local concerns, the county chose not to pursue federal funding and, as a compromise measure, later widened the historic bridge but did not improve the approaches. The "rehabilitation" added a two lane deck with concrete barrier rails on top of the arch. The final appearance was so severely out of scale with the original bridge that, even though the arch has been "preserved," the bridge is no longer eligible for the National Register. Thus, rehabilitation of a historic bridge, which might presumably be considered the ideal approach, had considerably less than ideal results in terms of preserving the historic qualities of the bridge.

At the state level, the retention and continued use of existing historic bridges has generally centered on routine maintenance and rehabilitation rather than major restoration projects. TDOT regularly schedules maintenance activities and basic rehabilitation techniques such as sandblasting and painting truss bridges to routinely extend their lives. For example, in 1995, faced with either replacing or rehabilitating the historic Alvin C. York Bridge (#150, 25-SR028-29.24), TDOT chose to rehabilitate the bridge by replacing and duplicating selected members and sandblasting and painting the bridge. For concrete arch bridges, TDOT repairs spalled concrete and replaces damaged rails as it did on the Henley Street Bridge in Knoxville (#132, 47-SR033-06.72) in 1988. Although the repairs delayed more intensive work, the bridge is currently scheduled for extensive repairs. Local governments have also implemented sensitive rehabilitations of historic bridges to extend their lives such as the Metropolitan Government of Davidson County's 1988 repairs to the Shelby Street Bridge (#58, 19-03245-01.47) which primarily involved sandblasting and painting the trusses. Again, the repairs extended the life of

the bridge, but the city closed it in February 1998 and then renovated the bridge for pedestrian use. Large-scale renovation projects have been completed or are underway for the Gay Street Bridge in Knoxville (#27, 47-03775-00.26), the Elk Avenue Bridge in Elizabethton (#115, 10-03939-00.10), and the Market Street Bridge in Chattanooga (#85, 33-SR008-09.53). However, it is relatively uncommon in Tennessee for local municipalities to aggressively pursue long term rehabilitation programs for their historic bridges.

Figure VII-03: Photograph of the Market Street Bridge (#85, 33-SR008-09.53) in Chattanooga during a routine inspection during which the bascule lift is activated and the leaves opened.



Ironically, most preservation projects occur when a historic bridge is scheduled for replacement. At that time, the government entity makes an evaluation to determine if it can rehabilitate the bridge for continued use. Typically, the government entity decides that rehabilitation is not prudent and feasible, and the agency then pursues other preservation options. In the past twenty-four years (1981-2005), county or state projects have replaced nearly fifty National Register listed or eligible bridges. Mitigation measures, either relocation or preservation in place, led to the preservation of about one-third of these “replaced” bridges. Table VII-03 contains a chart of bridges replaced since the beginning of the survey and their disposition (demolition, preservation in place, or relocation). Note that this does not include bridges listed in Table VII-02 that enumerates bridges bypassed or removed from service rather than being replaced.

When TDOT determines that a historic bridge can not be rehabilitated for continued use and schedules it for replacement, TDOT’s preferred option is to leave the old bridge in place and build the new bridge on a different alignment. This not only saves the bridge but also retains its historic location. Although federal laws prohibit these bridges from ever being used again on public roads, ideally, some other use can be found. For instance, in 1978 the City of Chattanooga closed the Walnut Street Bridge (#20, 33-03544-00.12) to traffic due to its critical condition and began construction of a new bridge on a different alignment. The fate of the Walnut Street Bridge was uncertain until the late 1980s, when the city rehabilitated the bridge for pedestrian use. The City of Chattanooga, as owner, agreed to donate the \$1.5

million demolition cost toward a restoration project, and local citizens raised other funds, including a one time special \$2 million federal appropriation, to fund the \$4 million renovation. Perhaps the most successful and well-known historic bridge project in the state, the Walnut Street Bridge currently serves pedestrian traffic as part of a riverfront redevelopment program.



Figure VII-04: Photographs of the Walnut Street Bridge (#20, 33-03544-00.12) in Chattanooga showing it in 1978 when it was closed (above) and in the 1990s after it had been renovated for pedestrian use (left).

TABLE VII-03: DISPOSITION OF NATIONAL REGISTER LISTED OR ELIGIBLE BRIDGES IN LOCAL OR STATE REPLACEMENT PROJECTS 1980-2005

(Unless noted otherwise, bridges were replaced in TDOT projects)

COUNTY & BRIDGE NUMBER	# IN CH. 6	CROSSING	TYPE	DISPOSITION
Anderson 01-02444-06.76	97	L & N Railroad	1 Kingpost	Collapsed 1989 prior to scheduled demolition
Anderson 01-A0088-03.53	87	Clinch River	1 Camelback & 2 Pratt Through, 1 Pratt Pony	Pony truss stored in 1982, three through spans demolished
Bedford 02-A048-00.38	45	North Fork Creek	1 Pratt Through	Demolished 1984
Bradley 06-A0163-00.19	12	Candies Creek	3 Pratt Pony	In 1988 spans stored in park for reuse on trails; two still in storage
Bradley 06-A0165-00.21	26	Candies Creek	3 Pratt Half-hip Pony	Three spans relocated in 1984 to trails within campground
Bradley 06-A0184-00.64	5	Candies Creek	1 Pratt Pony	Truss reused in golf course 1990
Cheatham 11-01931-02.00	32	Harpeth River	2 Pratt Through	Bypassed 1984, on pedestrian trail
Davidson 19-D0981-02.00	46	Harpeth River	3 Warren Pony	Demolished 1987
Davidson 19-03245.01.47	58	Cumberland River	1 Parker, 1 Parker Through, & 2 Camelback	Closed 1998, renovated, and opened for pedestrian use in 2003
Dekalb 21-A0028-01.21	59	Smith Fork Creek	2 Warren Pony	Trusses razed in 1988, 1838 substructure remains adjacent to new bridge

Dickson 22-01864-02.86	47	Jones Creek	1 Pratt Through	Bypassed 1983, demolished 1985 when county sold bridge for scrap
Franklin 26-A406-00.33	63	Wagner Creek	1 Pratt Through	Demolished 1984
Giles 28-A0340-00.83	99	L & N (CSX) Railroad	1 Timber Kingpost	Collapsed 1989
Grainger 29-A0051-00.06	64	Flat Creek	1 Pratt Half-hip Pony	Demolished 1987
Greene 30-A0934-00.16	60	Lick Creek	1 Pratt Half-hip	Demolished 1998
Greene 30-A0906-00.01	109	Little Chucky Creek	1 Covered Queenpost	Bypassed in 1987-1988 and integrated into roadside park
Grundy 31-A0022-02.49	71	Hickory Creek	2 Masonry Arches	County replaced bridge in 1984, left as historic ruin
Hawkins 37-A0131-01.67	93	Poor Valley Creek	1 Warren Pony	1987 traffic accident damaged truss & county demolished in 1988
Henry 40-SR076-30.34	125	Tennessee River	3 Parker & 8 Pratt Through	Demolished 1991; local citizens moved one Pratt span to park as exhibit
Humphreys 43-A0340-00.01	68	Hurricane Creek	1 Pratt Through	Bypassed 1985, open for pedestrian use within Loretta Lynn Dude Ranch
Jackson 44-SR056-10.96	119	Cumberland River	1 K & 2 Warren- PTC Through	Demolished 1994
Knox 47-01262-01.16	121	Roseberry Creek	1 Open Spandrel Arch	Demolished 1995-1996
Lincoln 52-SR274-06.82	18	Coldwater Creek	2 Warren Pony	Demolished 1986
Lincoln 52-A0147-03.89	116	Lane Branch	2 Masonry Arches	County replaced in 1981 and left as historic ruin

592 BRIDGE PRESERVATION EFFORTS IN TENNESSEE

SURVEY REPORT FOR HISTORIC HIGHWAY BRIDGES

Lincoln 52-A0487-04.85	17	Elk River	1 Double Intersection Pratt & 1 Pratt Half-hip Pony	Scheduled to be bypassed 1981 and left as historic ruin but contractor accidentally demolished it
Lincoln 52-A0494-00.22	23	Elk River	1 Baltimore Petit Through and 2 Pratt Half-hip Pony	Bypassed 1987, deck and approaches removed, main span remains as historic ruin
Loudon 53-02507-08.23	80	Pond Creek	1 closed spandrel arch	County demolished in 1991
McMinn 54-A021-00.10	69	L&N Railroad	1 Kingspost	County removed Kingspost truss in 1990s and rebuilt the bridge, rendering it ineligible, demolished 1995
Madison 57-01644-00.05	101	South Fork Forked Deer River	1 Warren Through	Demolished 1993
Marion 58-A0443-00.50	53	Poplar Spring Branch	1 Closed Spandrel Arch	City replaced 1992
Marion 58-A0502-00.36	24	Battle Creek	1 Pratt	County built new bridge nearby in the 1990s and removed much of the decorative detailing but left core bridge as ruin
Meigs 61-A0028-00.23	81	Big Sewee Creek	1 Pratt Through	County closed and barricaded bridge in 1985 and TDOT built a new bridge in 1988, leaving this as a historic ruin
Meigs 61-NonHighway-2	95	Big Sewee Creek	1 Pratt Bedstead Pony	Bypassed 1982, left as historic ruin
Monroe 62-A0520-02.45	82	L&N Railroad	1 Queenpost	Railroad demolished 1999
Montgomery 63-00973-03.88	108	Cumberland River	1 K & 2 Warren- PTC Through	Demolished 1986
Montgomery 63-A0456-01.88	21	Sulphur Fork Creek	1 Pratt Through	Bypassed 1990, pedestrian trail in Port Royal State Historic Area

Morgan 65-NonHighway-1	7	White Oak Creek	1 Warren Pony	Bypassed 1981, within scenic pull-off
Morgan 65-00444-9.58	127	Emory River	2 Camelbacks	Bypassed in 1990; incorporated into Cumberland Trail System
Pickett 69-SR042-03.27	155	Obey River	3 Parker & 3 Warren-PTC Through	Demolished 1995-1996
Polk 70-SR315-00.02	72	Hiwassee River	5 Pratt Through	Demolished 1992
Polk 70-01223-02.53	70	Hiwassee River	1 Parker and 2 Pratt Through	Demolished 1993
Roane 73-00653-04.34	154	Poplar Creek	3 Bailey Pony	Dismantled 1985, stored for emergency use as needed
Roane 73-01226-00.50	86	Emory River	7 Closed Spandrel Arches	Demolished 1992
Roane 73-A0323-02.19	29	Paint Rock Creek	1 Pratt Bedstead Pony	Demolished 1983
Roane 73-A0330-00.84	19	Paint Rock Creek	1 Pratt Bedstead Pony	Demolished 1987
Smith 80-01068-03.16	100	Hickman Creek	4 Closed Spandrel Arches	County demolished in 1995
Smith 80-A0206-00.47	56	Lick Creek	1 Pratt Pony	Relocated 1986 to city park for use on pedestrian trail
Sullivan 82-C0539-00.01	75	South Fork Holston River	3 Pratt Through	Demolished 1984
Unicoi 86-A0068-00.89	89	Nolichucky River	5 Closed Spandrel Arches	Demolished 1989
Warren 89-04261-11.60	112	Collins River	2 Parker Through & 2 Warren Pony	Bypassed 1986 and incorporated into pedestrian trail in Rock Island State Park
Washington 90-B0586-00.00	90	Watauga River	2 Pennsylvania Petit Through	Demolished 1986
White 93-A0415-00.19	96	L & N Railroad	1 Queenpost	Collapsed 1985

PTC denotes Polygonal Top Chord

The 1908 Liberty Bridge in DeKalb County (#59, 21-A0028-01.21) and the 1892 Hobbs Bridge in Lincoln County (#23, 52-A0494-00.22) are examples of two bridges bypassed and left in place as ruins in state replacement projects. It was not possible to retain the 1908 truss superstructure of the Liberty Bridge due to hydraulic concerns, but at the request of the city of Liberty, TDOT left the 1830s masonry pier and one abutment. Stone from the other abutment formed rip-rap for the new bridge. In 1988, when a state replacement project threatened the Hobbs Bridge, Lincoln County agreed to maintain the main Baltimore Petit span as a ruin. TDOT built the new bridge up-stream and, as part of the replacement project, removed the approach spans and deck, sandblasted and painted the Petit span, and erected a historical marker nearby.

Figure VII-05: Photograph of the Hobbs Bridge (#23, 52-A0494-00.22) in Lincoln County, left in place adjacent to the replacement bridge.



A serious disadvantage of this approach is that once TDOT completes its replacement project, the local owner is free to alter or demolish the old bridge. This has happened only once in Tennessee's historic bridge program. TDOT replaced the County House Bridge in Dickson County (#47, 22-01864-02.86) in 1983 and built the new bridge on a different alignment, leaving the historic bridge in place as a ruin. About two years later, over protests by local preservationists, the county sold the old bridge for scrap, specifically requiring that the truss be removed.

However, the vast majority of bridges that have been bypassed and/or abandoned simply continue to stand through the years. For example, in 1959, the state bypassed and abandoned the 1924 Old Elkton Bridge in Giles County (#111, 28-NonHighway-1). The bridge has remained in place, and recently, TDOT awarded the county a Transportation Enhancement grant to rehabilitate the bridge for use within a trail system. Although no one practices a cyclical maintenance program, no local authority regularly advocates their removal, and once formally bypassed, the Highway Bridge Rehabilitation and Replacement Program will not fund their demolition. Scrap scavengers or floods are typically the greatest threat to these bridges.

As tangible history, abandoned bridges are valuable not only as picturesque ruins but as extant artifacts. People can appreciate them and learn more about bridges and the era they represent than they could ever learn from photographs and drawings. While the removal of traffic and perhaps the removal of approaches and decking may result in diminished integrity, these factors are a comparatively small disadvantage compared to the merits of abandonment.

TDOT prefers to retain historic bridges in place, but this approach is not always feasible. In those cases, TDOT offers the truss spans for relocation. For instance, in 1984, TDOT advertised the availability of three truss spans from the McPherson Bridge in Bradley County (#26, 06-A0165-00.21), and at the request of the Girl Scout Council relocated the spans to sites within a Girl Scout campground in Jackson County. In 1986, TDOT relocated the single truss span from the Buena Vista Ford Bridge in Smith County (#56, 80-A0206-00.47) to a city park in Loudon for use on a trail. In 1990, TDOT relocated the single truss from the Dobbs Ford Bridge in Bradley County (#5, 06-A0184-00.64) to a nearby Cleveland city golf course. In each instance, state replacement projects threatened these historic bridges, and as mitigation, the project bore the cost of relocation and minor incidentals. Dyer County abandoned the Lenox Bridge (23-NonHighway-1) in the 1970s, and it later faced demolition as the result of an Army Corps of Engineering dredging project. As mitigation, the Corps relocated the truss to a subdivision. To assure its long-term preservation, the county agreed to assume liability and maintenance for the bridge should the subdivision developer fail to preserve the bridge.

Finding recipients who will agree to accept liability and maintenance for the historic bridge is usually the principal problem in preserving historic bridges scheduled for replacement. Concrete arch spans can not realistically be relocated, and few potential recipients have any use for most concrete bridges in their original location. Thus, it is difficult to find a recipient to accept liability and maintenance responsibilities for concrete arch bridges, and replacement projects typically result in their demolition. Truss spans longer than one hundred feet are expensive to relocate, and like concrete arch bridges, few potential recipients have any use for them in their original location, and replacement projects typically result in their demolition.

In an effort to identify potential recipients, TDOT has aggressively pursued finding recipients who will agree to accept liability and maintenance of historic bridges, either in their existing location or at a new site. In 1982, TDOT faced the replacement of six historic bridges in small counties across the state. TDOT advertised their availability in newspapers in each of the four major metropolitan areas of the state as well as in the specific counties in which the bridges were located. Extensive state and national news coverage followed, and TDOT received over one hundred requests for information. Although the publicity resulted in finding a recipient for only one of those six bridges, it has been responsible for the preservation of other bridges. Even today, potential recipients contact TDOT as a result of this initial marketing effort. An advantage of such a broad based and long term marketing program has been the development of a list of potential recipients. Each time TDOT schedules a historic bridge for replacement, it mails each person on this list a one-page flyer about the proposed replacement project. TDOT also sends a flyer to park administrators across the state, as well as, to local radio and television stations and local newspapers. As appropriate, TDOT pays for formal advertisements in local newspapers. An *Offering Package* containing detailed information about the bridge is available for anyone who requests one.

As a result of TDOT's efforts, the Advisory Council on Historic Preservation and the U.S. Department of Transportation in a joint Historic Preservation Awards program in 1984

honored the Tennessee Department of Transportation with an Award for Outstanding Public Service to Transportation and Historic Preservation in ceremonies in Washington, D. C. for Tennessee's historic bridge marketing program.

When preservation of historic bridges is not possible, TDOT considers extensive documentation as mitigation. TDOT records any historic bridge scheduled for demolition or relocation to Historic American Engineering Record (HAER) recommendations prior to demolition. This documentation includes archivally processed large format photographs, a written history of the bridge, and as-built drawings. TDOT provides this material to HAER that files the material with the Library of Congress. In addition, the bridge survey and subsequent publication of the results is another form of documentation of Tennessee's historic bridges. This survey provides an on-going and extensive data base for this entire class of resources.

The survey itself is a tool, not only to document historic bridges, but also to generate interest in their significance and in their preservation. Using the National Register of Historic Places program as a gauge, since 1980, nineteen bridges in Tennessee have been listed on the National Register. Thirteen are individually listed, and district nominations for the other six bridges specifically mentioned them as contributing properties. (This number does not include Determinations of Eligibility or girder and beam bridges included in districts.) This increase reflects a growing awareness of the significance of bridges as important historic and engineering resources and is in stark contrast to those enumerated in Table VII-01 (which seem, usually to have simply been located within district boundaries rather than intentionally being nominated). Table VII-04 contains a list of bridges listed in the National Register between 1980 and 2005.

Interest in historic bridges, as demonstrated by nominations to the National Register or their identification in TDOT's survey, is good but, by itself does not preserve a bridge. On the one hand, the survey has resulted in a thorough understanding of the historical context relating to this type of resource as well as a comprehensive knowledge of what types of bridges exist in the state. At the same time, the historic resource continues to rapidly disappear, a situation not unique to bridges. In an effort to alleviate the loss of this unique resource, the Federal Highway Administration (FHWA), TDOT, and the Tennessee State Historic Preservation Office (TN-SHPO) devised the following objectives and strategies:

TABLE VII-04: BRIDGES LISTED ON THE NATIONAL REGISTER BETWEEN 1980 AND 2005 (EXCLUDING DETERMINATIONS OF ELIGIBILITY FOR REPLACEMENT PROJECTS)

COUNTY & BRIDGE NUMBER	# IN CH. 6	CROSSING	TYPE	DATE LISTED NOMINATION CITATION
Blount 05-NonHighway-1	98	Little River	3 Closed Spandrel Arches	1989, Walland Bridge, Individually Listed
Cumberland 18-01168-03.76	137	Byrd's Creek	1 Masonry Arch	1988, Cumberland Homesteads Historic District, Contributing
Cumberland 18-01166-03.59	141	Byrd's Creek and Lake	15 Closed Spandrel Arches	1988, Cumberland Homesteads Historic District, Contributing
Cumberland 18-A0939-01.00	142	Byrd's Creek	1 Masonry Arch	1988, Cumberland Homesteads Historic District, Contributing
Davidson 19-3245-01.47	58	Cumberland River	1 Parker and 2 Camelback Through	1986, Shelby Street Bridge, Individually
Davidson 19-NonHighway-8	13	Brown's Creek	1 Masonry Arch	1987, Omohundro Water Filtration Complex, Individually
Dekalb 21-A0028-01.21	59	Smith Fork Creek	2 Warren Pony	1987, Liberty Historic District, Contributing
Franklin 26-NonHighway-1	78	Factory Creek	2 Masonry Arch	1987, Falls Mill Historic District, Contributing
Grundy 31-A0022-02.49	71	Hickory Creek	2 Masonry Arch	1987, Hickory Creek Stone Arch Bridge, Individually listed
Grundy 31-NonHighway-2	52	Firescald Creek	1 Masonry Arch	1987, Firescale Creek Stone Arch Bridge, Individually Listed

Grundy 31-NonHighway-3	28	Scott Creek	2 Masonry Arch	1987, Scott Creek Stone Arch Bridge, Individually Listed
Hamilton 33-03544-00.12	20	Tennessee River	6 Camelback Through	1990, Walnut Street Bridge, Individually Listed
Humphreys 43-A0340-00.01	68	Hurricane Creek	1 Pratt Through	1999, Hurricane Mills Rural Historic District, Contributing
Lincoln 52-A0183-05.54	6	Elk River	1 Bowstring Through	1983, Kelso Bowstring Arch Truss, Individually Listed
Marion 58-A0443-00.50	53	Poplar Spring Branch	1 Filled Spandrel Arch	1991, Cumberland Avenue Bridge, Individually Listed
Meigs 61-A0022-01.04	10	Sewee Creek	1 Pratt Through	1982, King's Mill Bridge, Individually Listed
Meigs 61-A0028-00.23	81	Sewee Creek	1 Pratt Through	1982, Big Sewee Creek Bridge, Individually Listed
Meigs 61-NonHighway-1	65	Big Sewee Creek	1 Pratt Bedstead Pony	1982, Hutsell Truss Bridge, Individually Listed
Meigs 61-NonHighway-2	95	Big Sewee Creek	1 Pratt Bedstead Pony	1982, Surprise Bridge, Individually Listed
Polk 70-SR315-00.02	72	Hiwassee River	5 Pratt Through	1986, Reliance Historic District, Contributing
Shelby 79-I055-12.00	156	Mississippi River	Continuous Warren through and deck trusses	2001, Arkansas and Memphis Bridge, Individually Listed

Objective 1: To promote public awareness and appreciation of historic bridges as significant cultural resources and potential community assets possessing values that are aesthetic, associational, and educational.

Strategies:

- TDOT will publish the results of the statewide bridge survey and make up to one thousand copies available to appropriate agencies and individuals. The TN-SHPO and TDOT will jointly publicize the availability of this report and will also pursue other publication options such as articles, brochures, etc., on historic bridges.
- The TN-SHPO will prepare a Multiple Property Documentation Form and National Register nominations for those extant bridges that have been determined eligible for the National Register of Historic Places.
- The TN-SHPO will use its annual program of preservation awards to recognize noteworthy and successful efforts at historic bridge preservation.
- The TN-SHPO and TDOT will jointly endeavor to ensure that appropriate local officials are informed of the existence of a historic bridge in their location and are encouraged to plan for its preservation.
- TDOT will produce a brochure on covered bridges in the state that will be distributed statewide.
- TDOT will create a web page that will include elements of the bridge publication.

Objective 2: To increase and maintain the state of knowledge and information concerning historic bridges for the use of planners, preservationists, and other professionals with responsibility for cultural resource management.

Strategies:

- TDOT will retain custody of the information produced by the historic bridge survey, which it has carried out, and will make the information available to researchers.
- TDOT will reevaluate the inventory of historic bridges ten years from the date of the completion of the survey report and reassess the eligibility of extant bridges at that time, specifically including those which during that time have met the fifty year age criterion of the National Register.
- TDOT will notify the TN-SHPO when a National Register eligible bridge has been demolished by a local agency or lost through an accident or natural disaster. The TN-SHPO will notify TDOT of any abandoned bridges inventoried through its comprehensive survey program.

Objective 3: To develop and institutionalize a process to insure preservation options are fully considered when historic bridges are proposed for replacement.

Strategies:

- When a historic bridge is proposed for possible replacement or identified as deficient, TDOT and FHWA will thoroughly consider the possibility of rehabilitation to correct deficiencies and preserve the bridge's historic value and integrity.
- If investigation indicates that rehabilitation is not feasible and prudent, (a) the bridge will be recorded in a manner acceptable to the TN-SHPO and (b) TDOT will consider other preservation options. These shall specifically include adaptive re-use, abandonment and preservation as an artifact or ruin, and relocation or re-erection at a new site.

- If no options for the physical preservation of the bridge are feasible, TDOT will offer decorative elements, plaques, or other significant features of the bridge to the TN-SHPO or other repository for curation to supplement the previously prepared HAER documentation.

Since Tennessee's bridge survey began in the early 1980s, many of Tennessee's historic bridges have been replaced. While the loss of any historic resources is unfortunate, the safety of the bridges crossing Tennessee's vast rivers and streams is paramount. As noted throughout this publication, the awareness of the significance of the state's historic resources has grown considerably over the past years. This interest in our state's unique history helped preserve several of the bridges either listed in or eligible for listing in the National Register of Historic Places. Through partnerships with preservationists, local governments, and interested parties, the Tennessee Department of Transportation can continue to meet the challenge of providing motorists with a safe and efficient road system while preserving the rich history that makes Tennessee a desirable place in which to live and visit.



Figure VII-06: The Buena Vista Ford Bridge spanning Lick Creek Smith County (#56, 80- A0206-00.47) is an atypical Pratt truss with fishbellied bottom chord built in 1907 by the W.T. Young Bridge Company (above). In 1986 TDOT removed the truss span (top next page) and lifted it off its original abutments and moved it on a truck to Loudon County (middle next page). This view shows it on a tandem truck negotiating a curve in rural Smith County. The City of Loudon renovated the bridge for pedestrian use on a city trail (bottom next page).

