

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Turley Bridge
MHTD: W 304

COOP04

DATE(S) OF CONSTRUCTION

1906-07; moved 1938

LOCATION

State Secondary Route V over Petite Saline Creek; S22, T48N, R15W
6.5 miles northeast of Prairie Home; Cooper County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / highway bridge

RATING NRHP possibly eligible (score: 47)

CONDITION

fair

OWNER

Missouri Highway and Transportation Department

span number: 1
span length: 170.0'
total length: 171.0'
roadway wdt.: 13.0'

superstructure: steel, 9-panel, pin-connected Parker through truss
substructure: concrete abutments; non-original masonry abutments and pier from previous bridge
floor/decking: asphalt over timber deck with steel stringers
other features: upper chord: two channels with cover plate and lacing; lower chord: two punched rectangular eyebars; vertical: two channels with lacing; hip vertical: two angles with batten plates; diagonal: two punched rectangular eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: two angles with continuous plate; lateral bracing on struts: round looped rods; portal strut: two angles with lacing and curved knee braces; floor beam: I-beam, field-bolted to verticals; guardrail: four angles with lattice and continuous ends

This long-span pinned Parker truss carries State Secondary Route V over the Petite Saline Creek some seven miles northeast of Prairie Home. Supported by a masonry pier and abutments, remnants of an earlier bridge at this location, the bridge was originally built as part of a two-span structure over the Lamine River. It was later moved to its present site in 1938. The truss on the Turley Bridge dates to 1906. In May of that year, the Cooper County Court declared "an urgent necessity for re-building the Turley Bridge across the Lamine River." When the job was let for bids in early June, several competitive proposals were received but were rejected by the court as too high. Negotiations to lower the bid estimates ensued. The resulting low bidder at \$8200.00, the Kansas City Bridge Company, was awarded the contract to fabricate and erect the long-span trusses. Using steel components rolled in Pittsburgh by Carnegie, KCBCo fabricated the two 170-foot spans and erected them on stone abutments and piers. Reported finished in March 1907, the bridge carried traffic at the rural crossing for almost thirty years before it was replaced by the state highway department with a heavier bridge [COOP03]. One of the spans of the 1907 bridge was moved in 1938 to a Boone County crossing near Columbia [BOON06]. The other was moved the same year to this location in Cooper County over Petite Saline Creek. It has functioned in place since the move, in unaltered condition.

Between the early 1880s, when trusses superseded bowstrings, and the 1920s, when field riveting attained widespread use, the pin-connected truss was the structure of choice for medium- and long-span wagon bridges in Missouri. Virtually all of the major Midwestern bridge companies fabricated pinned trusses and marketed them extensively to counties throughout the state in the late 19th and early 20th centuries. This corresponded with a period of intense bridge construction, as the counties were busily upgrading their road and

highway systems. As a result, thousands of pinned trusses were built in Missouri during this formative period, and many remain in place today.

Most of these featured straight-chorded Pratt configurations. After the turn of the century, however, bridge manufacturers found a greater economy in polygonal-chorded Pratt variants (particularly the Parker truss) for long-span applications. Their relatively long spans, light structural members and archaic detailing have rendered pin-connected Parker trusses particularly vulnerable to subsequent replacement. As a result, of the hundreds that once carried vehicular traffic throughout the state, fewer than three dozen remain in place today. These range in span length from 110 feet to 200 feet and in erection date from 1900 to 1932. The Turley Bridge, with its 170-foot span and 1907 construction date, falls within the mainstream of this trend. It is not unique among Missouri's early roadway spans. Rather, the significance of this structure accrues from its representation of early wagon/auto bridge construction. It is among the longest and best-preserved trusses in Missouri: a noteworthy example of a now-uncommon structural type.