

HOWARD COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
 [Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
*HOWA01	G 56R1	Boonville Bridge	3-420' riveted Pennsylv. through truss 1924 Missouri Valley B&I Company; Mt. Vernon Bridge Company
*HOWA02	K 744	New Franklin Viaduct	19-54' concrete deck girder viaduct 1940 Carrothers and Crouch
*HOWA03	K 936	MKT Railroad Overpass	6-100' steel plate deck girder 1941 Otto W. Knutson
HOWA04	013001.5	Batts Creek Bridge	(replaced)
*HOWA05	019002.5	Bonne Femme Creek Bridge	1- 40' pinned Pratt half-hip pony truss c1910
HOWA06	024001.1	Woods Bridge	1- 50' pinned Pratt bedstead 1913 Massillon Bridge & Struct. Co.
*HOWA07	036000.6	Tippett Bridge	(replaced)
*HOWA08	053001.5	Moniteau Creek Bridge	1- 54' pinned Pratt bedstead c1910
*HOWA09	056001.1	Moniteau Creek Bridge	1- 70' pinned Pratt bedstead 1913 Pan-American Bridge Company
*HOWA10	061001.1	Moniteau Creek Bridge	1- 60' pinned Pratt bedstead 1913 Pan-American Bridge Company
*HOWA11	061001.6	Moniteau Creek Bridge	1- 50' pinned Pratt bedstead c1910
*HOWA12	067000.7	Means Ford Bridge	(replaced)
*HOWA13	085002.0	Drake Bridge	1- 80' pinned Pratt pony truss 1899 Wrought Iron Bridge Company
*HOWA14	086001.9	Jones Bridge	(replaced)
*HOWA15	087002.0	Prairie Fork Bridge	1- 70' pinned Pratt pony truss c1900 Wrought Iron Bridge Company
HOWA16	088001.5	Prairie Fork Bridge	1- 64' pinned Pratt bedstead 1909 Pan-American Bridge Company
*HOWA17	108001.3	Bonne Femme Creek Bridge	1- 80' pinned Pratt pony truss c1905
HOWA18	113000.0	Sulphur Creek Bridge	1- 50' pinned Pratt bedstead 1910 Pan-American Bridge Company
*HOWA19	121000.0	Sulphur Creek Bridge	1- 82' 2-angle Camelback pony truss c1940
HOWA20	125000.5	Sulphur Creek Bridge	(replaced)
*HOWA21	161002.0	Adams Fork Bridge	1- 50' pinned Pratt half-hip pony truss 1896 Wrought Iron Bridge Company
*HOWA22	178003.0	Bonne Femme Creek Bridge	(replaced)
HOWA23	196000.4	Greggs Creek Bridge	(replaced)
HOWA24	200000.2	Doxies Creek Bridge	1- 54' pinned Pratt half-hip pony truss 1904
*HOWA25	211001.0	Ridgeway Bridge	1- 80' pinned Pratt pony truss 1907 Pan-American Bridge Company

HOWARD COUNTY

EXCLUDED:

Warren pony truss

049001.2 066000.8 138001.0 139001.2 201001.2

Warren bedstead

040001.2

Lattice bedstead

024000.9 035000.0 048000.2 065004.8 078000.4 139000.8 163000.4
164000.4

Steel stringer

G 544R	K 45R	S 946	T 116	X 127	X 691	013000.5
019R02.0	027002.0	029000.1	031000.9	032000.8	037000.3	065003.8
067002.3	069002.0	072001.0	078002.0	085001.0	088001.7	088001.8
088001.9	092004.0	124000.2	142000.5	143004.0	143004.0	159001.1
165003.4	175001.0	197000.5	207001.8	221000.4		

Concrete girder

H 266R H 287R H 720R J 7A J 902 K 382 K 962

Concrete slab

J 950 L 119

Concrete box culvert

J 903 J 919

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	3	15	0	0	18
Excluded	17	40	0	0	57
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	20	55	0	0	75 structures

Boonville Bridge

HOWA01

GENERAL DATA

structure no.: G 56R1 city/town: Boonville
county: Cooper / Howard feature inters.: Missouri River
cadastral grid: Survey 2481, T48N, R16W
highway route: U.S. Highway 40
highway distr.: 2
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 18-panel, rigid-connected Pennsylvania through truss; steel, 11-panel, rigid-connected Parker through truss
substructure: concrete abutments, wingwalls and piers

span number: 3; 3
span length: 420.0'
length : 2666.0'
roadway width: 18.1'

condition: good
alterations: wood block deck replaced with steel grid total flooring and sidewalk added, 1937
floor/decking : open grid steel deck over steel stringers
other features: upper chord and inclined end post: 2 built-up channels with cover plate and double lacing; lower chord: two built-up channels with lacing; vertical: 2 or 4 angles with lacing; diagonal: 2 channels with lacing or batten plates; lateral bracing: 2 channels (lower), 4 angles with lacing (upper); strut: 4 angles with lacing and bracing below: floor Beam: I-beam; guardrail: steel pipe; portal plate: 1923 / BOONVILLE BRIDGE / BUILT BY THE OLD TRAILS BRIDGE CO / T.A. JOHNSTON PRESIDENT / COOPER COUNTY / HOWARD COUNTY / CITY OF BOONVILLE / FEDERAL AID APPROPRIATED BY MISSOURI STATE HIGHWAY COMMISSION / B.H. PIEPNIER CHIEF ENGINEER / DESIGNED AND SUPERVISED BY HARRINGTON HOWARD AND ASH / CONTRACTORS MT. VERNON BRIDGE CO MT VERNON, OHIO / MISSOURI VALLEY BRIDGE AND IRON CO LEAVENWORTH, KANSAS. on south approach THIS BRIDGE APPROACH WAS ERECTED AND IS MAINTAINED BY THE CITY OF BOONVILLE, MO John E. Waltz Mayor, Charles W. Journey City Counsellor, Charles E. Miller City Clerk, City Council, Rudolph E. Toennes, Dr. Charles Swap, Herman Schmidt, Herman M. Stretz,

Boonville Bridge

O.F. Kelly, J.C. Barnhart W.T. Gibson, Irene Schubert, HARRINGTON HOWARD AND ASH ENGINEERS, W.J. COCHRAN AND SON CONTRACTOR, 1922-23, THIS TABLET ERECTED BY A GRATEFUL PEOPLE IN HONOR OF JOHN COSGROVE AND THOMAS A JOHNSTON TO WHOSE VISION AND SERVICE THIS BRIDGE IS A TESTIMONIAL, JULY 1924

HISTORICAL DATA

erection date: 1922-24
erection cost: \$556,883.82
designer: Harrington, Howard and Ash, Kansas City MO
fabricator : Carnegie Steel Company, Pittsburgh PA
contractor : Mt. Vernon Bridge Company, Mt. Vernon OH (superstructure);
Missouri Valley Bridge and Iron Company, Leavenworth KS (substructure);

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number G 56R1; Missouri Highway and Transportation Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO; *Boonville Advertiser* July 4, 1924, *Central Missouri Republican*, 5 January 1922, 16 February 1922; Robert L. Dyer, *Boonville: An Illustrated History*, (by author, 1987), page 231; field inspection by Richard Collier, 8 June 1991.

sign. rating: 75
evaluation: NRHP eligible (excellent early example of great river bridge construction)

Inventoried by: Clayton B. Fraser 29 November 1994

New Franklin Viaduct

HOWA02

GENERAL DATA

structure no.: K 744	city/town: New Franklin
county: Howard	feature inters.: abandoned grade of MKT Railroad
	cadastral grid: S29/28, T49N, R16W
	highway route: State Highway 5
	highway distr.: 2
	current owner: Missouri Highway Transportation Department

STRUCTURAL DATA

superstructure: multiple span, concrete deck girder viaduct
substructure: concrete abutments, wingwalls and piers

span number: 6; 13	condition: good
span length: 54.0'; 48.0'	alterations: none
total length: 1462.0'	floor/decking : asphalt-covered concrete deck
roadway width: 24.0'	other features: arched concrete girders; open balustrade guardrails with flanking pedestrian stairways; modest Moderne treatment on concrete piers

HISTORICAL DATA

erection date: 1939-40
erection cost: \$167,894.18
designer: Missouri State Highway Department
fabricator : none
contractor: Carrothers and Crouch

references: Missouri Highway Transportation Department, Structure Inventory and Appraisal: Structure Number K 744; Missouri Highway and Transportation Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO; field inspection by Richard Collier, 8 June 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved example of urban viaduct)

inventoried by: Clayton B. Fraser 29 November 1994

MKT Railroad Overpass

HOWA03

GENERAL DATA

structure no.: K 936	city/town: 6.6 miles east of Franklin
county: Howard	feature inters.: abandoned grade of MKT Railroad
	cadastral grid: S33, T49N, R15W
	highway route: U.S. Highway 40
	highway distr.: 2
	current owner: Missouri Highway Transportation Department

STRUCTURAL DATA

superstructure: steel plate deck girder, with continuous steel stringer approach spans
substructure: concrete abutments, wingwalls and hammerhead, spill-through piers

span number: 1; 1	condition: good
span length: 100.0'; 80.0'	alterations: none
total length: 578.0'	floor/decking : asphalt-covered concrete deck over steel stringers
roadway width: 26.0'	other features: guardrails; standard MSHD guardrails with open balustrades

HISTORICAL DATA

erection date: 1941
erection cost: \$108,219.47
designer: Missouri State Highway Department
fabricator : unknown
contractor : Otto W. Knutson

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number K 936; Missouri Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Richard Collier, 8 June 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typical long-span example of MSHD beam bridge design)

inventoried by: Clayton B. Fraser 29 November 1994

Bonne Femme Creek Bridge

HOWA05

GENERAL DATA

structure no.: 019002.5	city/town: 6.8 miles northeast of Fayette
county: Howard	feature inters.: Bonne Femme Creek
	cadastral grid: S6/7, T51N, R15W
	highway route: County Road 19
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: steel pile bent abutments with timber wingwalls faced with corrugated steel

span number: 1	condition: fair
span length: 40.0'	alterations: unknown
total length: 40.0'	floor/decking : timber deck over steel stringers
roadway width: 12.3'	other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 angles with batten plates, 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical below lower chord

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor : unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 019002.5; field inspection by Richard Collier, 8 June 1991.

sign. rating: 20
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Clayton B. Fraser 29 November 1994

Woods Bridge

HOWA06

GENERAL DATA

structure no.: 024001.1	city/town: 8.7 miles northeast of Fayette
county: Howard	feature inters.: Bonne Femme Creek
	cadastral grid: S33, T52N, R15W
	highway route: County Road 24
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead	
substructure: steel pile bent abutments with timber wingwalls	
span number: 1	condition: fair
span length: 50.0'	alterations: unknown
total length: 50.0'	floor/decking : timber deck
roadway width: 11.5'	other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1913
erection cost: \$4450.00 (multiple-bridge contract)
designer: Massillon Bridge and Structural Company, Massillon OH
fabricator : Massillon Bridge and Structural Company, Massillon OH
contractor : Massillon Bridge and Structural Company, Massillon OH
references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 024001.1; Bridge Contact with the Massillon Bridge and Structural Company, dated 27 December 1912 - located at Howard County Courthouse, Fayette MO.
sign. rating: 40
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 29 November 1994

Moniteau Creek Bridge

HOWA08

GENERAL DATA

structure no.: 053001.5 city/town: 12.5 miles northeast of Fayette
county: Howard feature inters.: Moniteau Creek
cadastral grid: S10, T51W, R14W
highway route: County Road 53
highway distr.: 2
current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt bedstead, with steel stringer approach spans
substructure: steel bent pier abutments; concrete piers

span number: 1 condition: fair
span length: 54.0' alterations: truss legs possibly cut off
total length: 90.0' floor/decking : timber deck over steel stringers
roadway width: 11.7' other features: upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 channels with batten plates, 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical below lower chord; guardrail: steel lattice

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department , Structure and Inventory Appraisal: Structure Number 053001.5; field inspection by Richard Collier, 8 June 1991.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Clayton B. Fraser 29 November 1994

Moniteau Creek Bridge

HOWA09

GENERAL DATA

structure no.: 056001.1	city/town: 11.5 miles northeast of Fayette
county: Howard	feature inters.: Moniteau Creek
	cadastral grid: S16, T51W, R14W
	highway route: County Road 56
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach span on each end	
substructure: steel pile bent abutments with timber wingwalls, steel truss-leg piers	
span number: 1	condition: fair
span length: 70.0'	alterations: guardrails removed; deck deteriorated
total length: 95.0'	floor/decking : timber deck over steel stringers
roadway width: 11.0'	other features: upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates, 2 looped rectangular eyebars; vertical: 4 angles with batten plates; diagonal: 2 looped square eyebars; counter: round eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted below lower chord

HISTORICAL DATA

erection date: 1913	
erection cost: \$1670.00 (contract amount)	
designer: Pan-American Bridge Company, New Castle IN	
fabricator : Pan-American Bridge Company, New Castle IN; Cambria Steel Company, Pittsburgh PA	
contractor : Pan-American Bridge Company, New Castle IN	
references: Missouri Highway and Transportation and Department, Structure Inventory and Appraisal: Structure Number 056001.1; Bridge Contract with Pan-American Bridge Company, dated 30 May 1913 - located at Howard County Courthouse, Fayette MO; field inspection by Richard Collier, 8 June 1991.	
sign. rating: 44	
evaluation: NRHP non-eligible (typical example of common structural type)	

inventoried by: Clayton B. Fraser 29 November 1994

Moniteau Creek Bridge

HOWA10

GENERAL DATA

structure no.: 061001.1	city/town: 10.6 miles northeast of Fayette
county: Howard	feature inters.: Moniteau Creek
	cadastral grid: S28, T51W, R14W
	highway route: County Road 61
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach spans	
substructure: steel pile bent abutments with timber back- and wingwalls; steel truss-leg piers	
span number: 1	condition: fair
span length: 60.0'	alterations: none
total length: 80.0'	floor/decking : timber decking over steel stringers
roadway width: 11.6'	other features: upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates, 2 looped rectangular eyebars; vertical: 4 angles with batten plates; diagonal: 2 looped square eyebars; counter: round eyobar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted below lower chord; guard-rail: steel lattice

HISTORICAL DATA

erection date: 1913	
erection cost: \$1395.00 (contract amount)	
designer: Pan-American Bridge Company, New Castle IN	
fabricator : Pan-American Bridge Company, New Castle IN; Cambria Steel Company, Pittsburgh PA	
contractor: Pan-American Bridge Company, New Castle IN	
references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 061001.1; Bridge Contract with Pan-American Bridge Company, dated 30 May 1913 - located at Howard County Courthouse, Fayette MO; field inspection by Richard Collier, 8 June 1991.	
sign. rating: 39	
evaluation: NRHP non-eligible (typical example of common structural type)	

inventoried by: Clayton B. Fraser 29 November 1994

Moniteau Creek Bridge

HOWA11

GENERAL DATA

structure no.: 061001.6	city/town: 11 miles northeast of Fayette
county: Howard	feature inters.: Moniteau Creek
	cadastral grid: S28 T51N, R14W
	highway route: County Road 61
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead
substructure: steel truss-leg abutments with timber back- and wingwalls

span number: 1	condition: fair
span length: 50.0'	alterations:
total length: 50.0'	floor/decking : timber deck with wear boards
roadway width: 11.6'	other features: upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates, 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted below lower chord; guardrail: steel lattice

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal; Structure Number 061001.6; field inspection by Richard Collier, 8 June 1991.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Clayton B. Fraser 29 November 1994

Drake Bridge

HOWA13

GENERAL DATA

structure no.: 085002.0	city/town: 9.0 miles east of New Franklin
county: Howard	feature inters.: Moniteau Creek
	cadastral grid: Survey 2455, T49N, R15W
	highway route: County Road 85
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 5-panel pin-connected Pratt pony truss, with steel stringer approach spans	
substructure: built-up steel piers and abutments	
span number: 1	condition: fair
span length: 80.0'	alterations: none
total length: 119.0'	floor/decking : timber decking over steel stringers
roadway width: 12.0'	other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted above lower chord; cast iron hip blocks and bearing shoes

HISTORICAL DATA

erection date: 1899	
erection cost: \$1645.00	
designer: Wrought Iron Bridge Company, Canton OH	
fabricator : Wrought Iron Bridge Company, Canton OH	
contractor : Wrought Iron Bridge Company, Canton OH	
references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 085002.0; Howard County Court Record: Book 25, page 141 (9 August 1899) - located at Howard County Courthouse, Fayette MO; field inspection by Richard Collier, 8 June 1991.	
sign. rating: 55	
evaluation: NRHP possibly eligible (well-preserved example of mainstay structural type)	

inventoried by: Clayton B. Fraser 29 November 1994

Prairie Fork Bridge

HOWA15

GENERAL DATA

structure no.: 087002.0	city/town: 9.6 miles northeast of New Franklin
county: Howard	feature inters.: Prairie Fork Creek
	cadastral grid: Survey 2455, T49N, R15W
	highway route: County Road 87
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel lattice pony girder approach span

substructure: concrete-filled steel cylinder piers under pony truss; steel bent abutments with timber backwalls

span number: 1	condition: fair
span length: 70.0'	alterations: truss possibly moved; lattice truss approach span added
total length: 102.0'	floor/decking : timber deck over steel stringers
roadway width: 13.7'	other features: upper chord and inclined end post: 2 channels with cover plate with lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: steel lattice

HISTORICAL DATA

erection date: c1900

erection cost: unknown

designer: Wrought Iron Bridge Company, Canton OH

fabricator : Wrought Iron Bridge Company, Canton OH

contractor : Wrought Iron Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 087002.0; field inspection by Richard Collier, 8 June 1991.

sign. rating: 37

evaluation: NRHP non-eligible (well-preserved example of patented bridge type, poorly documented and possibly moved to this location)

inventoried by: Clayton B. Fraser 29 November 1994

Prairie Fork Bridge

HOWA16

GENERAL DATA

structure no.: 088001.5	city/town: 10.5 miles east of New Franklin
county: Howard	feature inters.: Prairie Fork Creek
	cadastral grid: S13/18, T49N, R14/15W
	highway route: County Road 88
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss	
substructure: steel truss-leg abutments with timber back- and wingwalls	
span number: 1	condition: fair
span length: 64.0'	alterations: unknown
total length: 64.0'	floor/decking : timber deck
roadway width: 11.9'	other features: timber guardrails

HISTORICAL DATA

erection date: 1909	
erection cost: \$720.00 (contract amount)	
designer: Pan-American Bridge Company, New Castle IN	
fabricator : Pan-American Bridge Company, New Castle IN	
contractor: Pan-American Bridge Company, New Castle IN	
references: Missouri Highway and Transportation Department, Structure, Inventory, and Appraisal: Structure Number 088001.5; Howard County Court Record: Book 27, page 341 (6 July 1909), pages 346-347 (2 August 1909) - located at Howard County Courthouse, Fayette MO.	
sign. rating: 42	
evaluation: NRHP non-eligible (typical example of common structural type)	

inventoried by: Clayton B. Fraser 29 November 1994

Bonne Femme Creek Bridge

HOWA17

GENERAL DATA

structure no.: 108001.3	city/town: 3.7 miles northeast of New Franklin
county: Howard	feature inters.: Bonne Femme Creek
	cadastral grid: Survey 2661, T49N, R16W
	highway route: County Road 108
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss	
substructure: concrete-filled steel cylinder piers with timber backwalls	
span number: 1	condition: fair
span length: 80.0'	alterations: none
total length: 84.0'	floor/decking : timber deck over steel stringers
roadway width: 11.5'	other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with lacing; diagonal: 2 square looped eyebars; counter: looped square eyebar with turnbuckle; floor beam: I-beam, field-bolted above lower chords; guardrail: 1 channel

HISTORICAL DATA

erection date: c1905	
erection cost: unknown	
designer: unknown	
fabricator : unknown	
contractor: unknown	
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 108001.3; field inspection by Richard Collier, 8 June 1991.
sign. rating: 31	
evaluation:	NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Clayton B. Fraser 24 November 1994

Sulphur Creek Bridge

HOWA18

GENERAL DATA

structure no.: 113000.0	city/town: 4.5 miles northwest of New Franklin
county: Howard	feature inters.: Sulphur Creek
	cadastral grid: S2/3, T49N, R17W
	highway route: County Road 113
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss	
substructure: steel pile bent piers with timber back- and wingwalls	
span number: 1	condition: fair
span length: 50.0'	alterations: unknown
total length: 50.0'	floor/decking : timber deck over steel stringers
roadway width: 11.5'	other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1910	
erection cost: \$725.00 (contract amount)	
designer: Pan-American Bridge Company, New Castle IN	
fabricator : Pan-American Bridge Company, New Castle IN	
contractor: Pan-American Bridge Company, New Castle IN	
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 113000.0; Howard County Court Record: Book 27, page 472 (6 June 1910); Bridge Contract with Pan-American Bridge Company, dated 14 September 1910 - both located at Howard County Courthouse, Fayette MO.
sign. rating: 37	
evaluation:	NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 29 November 1994

Sulphur Creek Bridge

HOWA19

GENERAL DATA

structure no.:	121000.0	city/town:	1.2 miles south of New Franklin
county:	Howard	feature inters.:	Sulphur Creek
		cadastral grid:	S32, T49N, R16W
		highway route:	County Road 121
		highway distr.:	2
		current owner:	Howard County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected, 2-angle Camelback pony truss
substructure: concrete abutments and wingwalls

span number:	1	condition:	fair
span length:	82.0'	alterations:	none
total length:	82.0'	floor/decking :	concrete deck over steel stringers
roadway width:	13.7'	other features:	upper chord and inclined end post: 2 angles; lower chord: 2 angles; vertical: 2 angles with batten plates; diagonal: 2 angles; lateral bracing: round rod with threaded ends; floor beam: I-beam; guardrail: 2 channels

HISTORICAL DATA

erection date: c1940
erection cost: unknown
designer: unknown
fabricator : United States Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department Inventory and Appraisal: Structure Number 121000.0; field inspection by Richard Collier, 8 June 1991.

sign. rating: 34
evaluation: NRHP determined non-eligible (uncommon structural type, poorly documented)

inventoried by: Clayton B. Fraser 29 November 1994

Adams Fork Bridge

HOWA21

GENERAL DATA

structure no.: 161002.0	city/town: 1.0 mile southwest of Fayette
county: Howard	feature inters.: Adams Fork
	cadastral grid: S10, T50N, R16W
	highway route: County Road 161
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel 3-panel, pin-connected Pratt half-hip pony truss	
substructure: steel pile bent pier and abutments with timber backwalls	
span number: 1	condition: fair
span length: 50.0'	alterations: substructure replaced; vertical added at one hip
total length: 58.0'	
roadway width: 13.7'	floor/decking : concrete deck over steel stringers
	other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; cast iron hip blocks and bearing shoes

HISTORICAL DATA

erection date: 1896	
erection cost: \$824.00	
designer: Wrought Iron Bridge Company, Canton OH	
fabricator : Wrought Iron Bridge Company, Canton OH	
contractor: Wrought Iron Bridge Company, Canton OH	
references:	Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 161002.0; Howard County Court Record: Book 24, page 160 (1 June 1896), page 214 (5 November 1896) - located at Howard County Courthouse, Fayette MO; field inspection by Richard Collier, 8 June 1991.
sign. rating: 43	
evaluation:	NRHP non-eligible (poorly preserved example of patented truss type)

inventoried by: Clayton B. Fraser 29 November 1994

Doxies Creek Bridge

HOWA24

GENERAL DATA

structure no.: 200000.2	city/town: 4.9 miles Northeast of Glasgow
county: Howard	feature inters.: Doxies Creek
	cadastral grid: Survey 2449/S1, T51/52N, R17W
	highway route: County Road 200
	highway distr.: 2
	current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: unknown

span number: 1	condition: fair
span length: 54.0'	alterations: unknown
total length: 56.0'	floor/decking : timber deck
roadway width: 12.1'	other features: unknown

HISTORICAL DATA

erection date: 1904
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 200000.2; Howard County Court Record: Book 25, page 256 (1 September 1900) - located at Howard County Courthouse, Fayette MO.

sign. rating: 31
evaluation: NRHP non-eligible (typically configured, partially documented example of common structural type)

inventoried by: Clayton B. Fraser 29 November 1994

Bonne Femme Creek Bridge

HOWA25

GENERAL DATA

structure no.: 211001.0 city/town: 2.5 miles southeast of Fayette
county: Howard feature inters.: Bonne Femme Creek
cadastral grid: S24, T50N, R16W
highway route: County Road 211
highway distr.: 2
current owner: Howard County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach span at each end
substructure: timber pile bent abutments with concrete-filled steel cylinder piers

span number: 1 condition: fair
span length: 80.0' alterations: none
total length: 112.0' floor/decking : timber deck over steel stringers
roadway width: 11.6' other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with batten plates; diagonal: 2 looped rectangular eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical below lower chord; guard-rail: steel lattice

HISTORICAL DATA

erection date: 1907
erection cost: \$1625.00
designer: Pan-American Bridge Company, New Castle IN
fabricator : Pan-American Bridge Company, New Castle IN
contractor: Pan-American Bridge Company, New Castle IN

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 211001.0; Howard County Court Record: Book 27, page 67 (5 August 1907), page 74 (3 September 1907) - located at Howard County Courthouse, Fayette MO; field inspection by Richard Collier, 8 June 1991.

sign. rating: 46
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 29 November 1994

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Boonville Bridge
MHTD: G 56R1

HOWA01

DATE(S) OF CONSTRUCTION

1922-24

LOCATION

U.S. Highway 40 over Missouri River; Survey 2481, T48N, R16W
Boonville; Cooper / Howard County, Missouri

USE (ORIGINAL / CURRENT)

highway bridge / highway bridge

RATING NRHP eligible (score: 75)

CONDITION

good

OWNER

Missouri Highway and Transportation Department

span number: 3; 3
span length: 420.0'
total length: 2666.0'
roadway wdt.: 18.1'

superstructure: steel, 18-panel, rigid-connected Pennsylvania through truss; steel, 11-panel, rigid-connected Parker through truss
substructure: concrete abutments, wingwalls and piers
floor/decking: open grid steel deck over steel stringers
other features: upper chord and inclined end post: 2 built-up channels with cover plate and double lacing; lower chord: two built-up channels with lacing; vertical: 2 or 4 angles with lacing; diagonal: 2 channels with lacing or batten plates; lateral bracing: 2 channels (lower), 4 angles with lacing (upper); strut: 4 angles with lacing and bracing below: floor Beam: I-beam; guardrail: steel pipe; portal plate: 1923 / BOONVILLE BRIDGE / BUILT BY THE OLD TRAILS BRIDGE CO / T.A. JOHNSTON PRESIDENT / COOPER COUNTY / HOWARD COUNTY / CITY OF BOONVILLE / FEDERAL AID APPROPRIATED BY MISSOURI STATE HIGHWAY COMMISSION / B.H. PIEPNIER CHIEF ENGINEER / DESIGNED AND SUPERVISED BY HARRINGTON HOWARD AND ASH / CONTRACTORS MT. VERNON BRIDGE CO MT VERNON, OHIO / MISSOURI VALLEY BRIDGE AND IRON CO LEAVENWORTH, KANSAS. on south approach THIS BRIDGE APPROACH WAS ERECTED AND IS MAINTAINED BY THE CITY OF BOONVILLE, MO John E. Waltz Mayor, Charles W. Journey City Counsellor, Charles E. Miller City Clerk, City Council, Rudolph E. Toennes, Dr. Charles Swap, Herman Schmidt, Herman M. Stretz, O.F. Kelly, J.C. Barnhart W.T. Gibson, Irene Schubert, HARRINGTON HOWARD AND ASH ENGINEERS, W.J. COCHRAN AND SON CONTRACTOR, 1922-23, THIS TABLET ERECTED BY A GRATEFUL PEOPLE IN HONOR OF JOHN COSGROVE AND THOMAS A JOHNSTON TO WHOSE VISION AND SERVICE THIS BRIDGE IS A TESTIMONIAL, JULY 1924

The idea of building a highway bridge across the Missouri River at Boonville was considered as early as the mid-1890s. A bridge-building corporation organized in 1896 by Captain S.W. Ravenal began planning such a structure, and even arranged for soundings to be taken for its piers. Due to a lack of funding and perhaps organization, however, the project failed to get off the ground. Bridging the Missouri at Boonville was then not seriously taken up again for more than two decades. In the interim, new impetus for Missouri River bridges—at Boonville and elsewhere—came from the National Old Trails Association, which was then promoting a transcontinental

highway. Reorganizing the potential economic benefits, Boonville's community leaders launched a spirited campaign to have the proposed highway pass through their town. A bridge over the Missouri River became a pivot point for the campaign.

Planning for the Boonville Bridge began in earnest in February 1921 when Colonel Thomas A. Johnston was appointed chairman of the bridge committee of the National Old Trails Association. A director of the Commercial Bank of Boonville, Johnston, along with Attorney John Cosgrove, became the driving force behind the bridge's planning and development. On June 20th the Old Trails Bridge Company was incorporated, with Johnston as president and Cosgrove as one of four vice-presidents. A fifteen-member board of director was elected from prominent community leaders. The Kansas City engineering firm of Harrington, Howard and Ash (HHA) began work on the structure's design in late July. In January 1922 HHA presented finalized plans and specification for the bridge to the board. Contracts to build the substructure and superstructure were subsequently awarded to the Missouri Valley Bridge Company and the Mount Vernon Bridge Company, respectively. A third contract for the south approach was let later to the W.J. Cochran and Son Construction Company, a local contractor.

With construction underway in the summer of 1922, a problem developed when the promoters learned that a recent provision in the Federal Aid Road Law forbade the charging of tolls on a federally aided bridge or highway. Because the original plan involved paying off bonds from toll receipts, the responsibility for the bridge's construction was taken over by the state. Half its cost, meanwhile, was financed locally, with the remainder coming from the federal government. Most importantly, the bridge would be toll-free. The intricate planning paid dividends on July 12, 1922, when the highway commission recommended that the main east-west highway across the state be routed through Boonville.

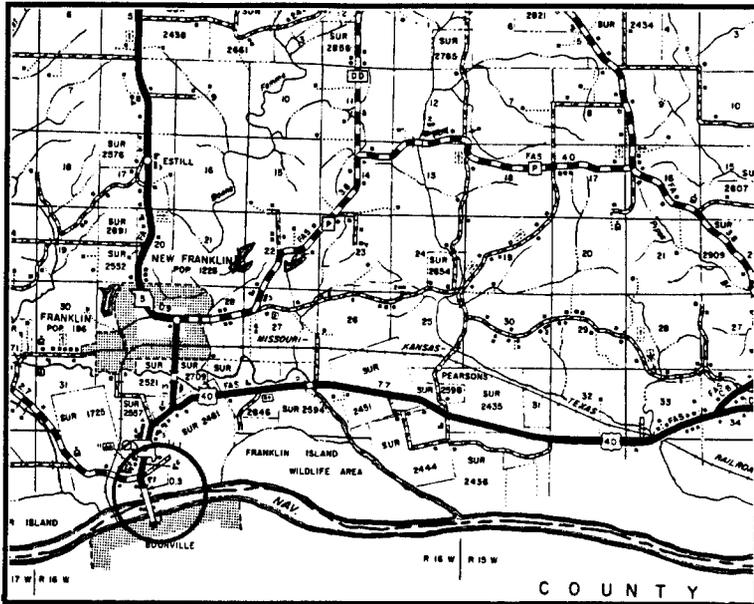
Work on the substructure began that summer and continued until the following spring. Shipments of superstructural steel began arriving in the summer of 1923. By early August, Mount Vernon's steel workers had placed the first steel members. Work on the superstructure extended into the spring of 1924. In late May the bridge was unofficially opened to traffic. Not coincidentally, that same month the operators of the Boonville Ferry failed to renew their license, shutting down operations for good. On Independence Day over 20,000 people descended on Boonville for a massive dedication ceremony. Governor Arthur M. Hyde and Colonel T.A. Johnston gave the keynote address, while the day's festivities included a concert, parade, aerobatic stunts, and a high-wire act. Built for a total cost of \$556,883.82, the Boonville Bridge was the state's first toll-free span over the Missouri. The crossing was also heralded as a final link in the National Old Trails transcontinental road.

Fourteen vehicular truss bridges over the Missouri River are included in Missouri's statewide historic bridge inventory. As a group, these spans comprise some of the state's longest and most massive vehicular structures. Each of these crossings is both historically and technologically significant. The Boonville Bridge is historically noteworthy as a pivotal link on a transcontinental highway, which had a major impact on the region's socioeconomic development. Although typically configured and detailed, the Boonville Bridge is among the state's most monumental examples of steel truss construction. With an overall length of 2666 feet, the multiple-span structure is a superlative example of its type.

NAME(S) OF STRUCTURE

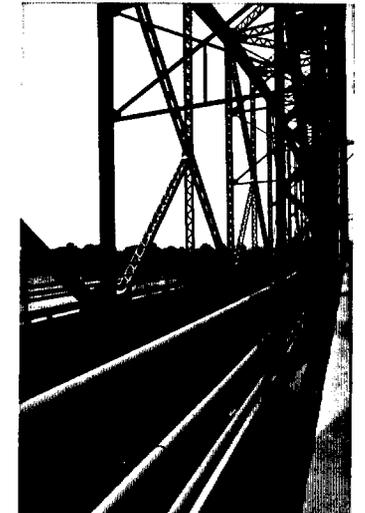
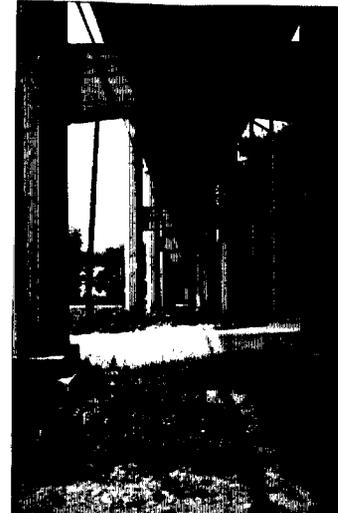
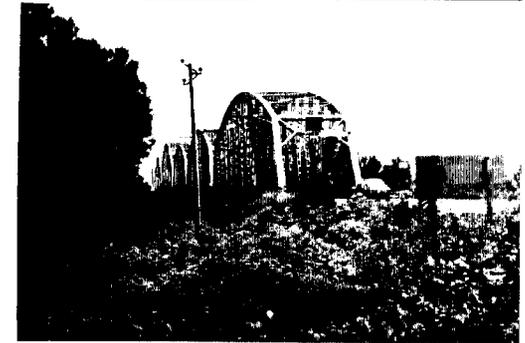
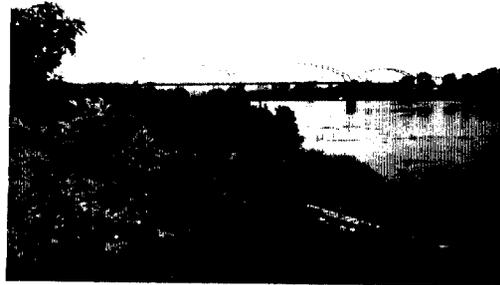
Boonville Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number G 56R1; Missouri Highway and Transportation Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO; Boonville Advertiser July 4, 1924, Central Missouri Republican, 5 January 1922, 16 February 1922; Robert L. Dyer, Boonville: An Illustrated History, (by author, 1987), page 231; field inspection by Richard Collier, 8 June 1991.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

29 November 1994

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

New Franklin Viaduct
MHTD: K 744

HOWA02

DATE(S) OF CONSTRUCTION

1939-40

LOCATION

State Highway 5 over abandoned grade of MKT Railroad; S29/28, T49N, R16W
New Franklin; Howard County, Missouri

USE (ORIGINAL / CURRENT)

urban viaduct / urban viaduct

RATING NRHP possibly eligible (score: 51)

CONDITION

good

OWNER

Missouri Highway Transportation Department

span number: 6; 13
span length: 54.0'; 48.0'
total length: 1462.0'
roadway wdt.: 24.0'

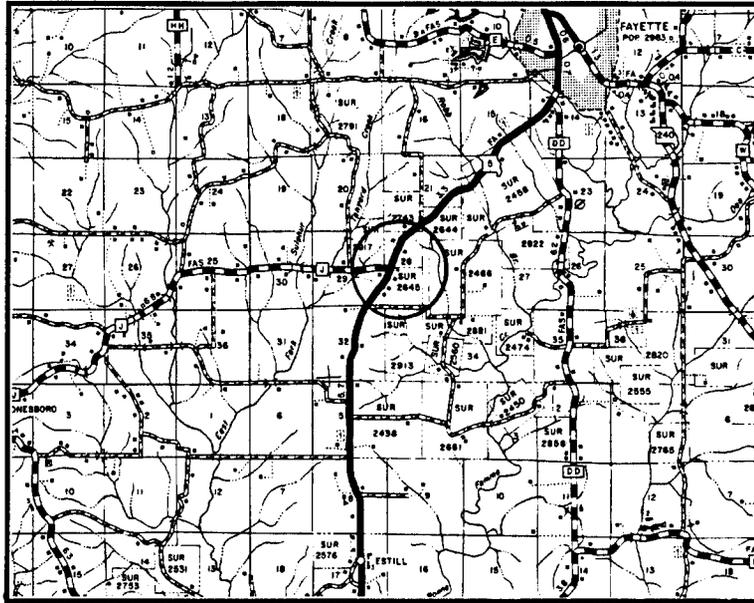
superstructure: multiple span, concrete deck girder viaduct
substructure: concrete abutments, wingwalls and piers
floor/decking: asphalt-covered concrete deck
other features: arched concrete girders; open balustrade guardrails with flanking pedestrian stairways;
modest Moderne treatment on concrete piers

As part of the effort to create jobs during the Depression, Congress in 1934 passed an act allowing federal monies to be used for road and bridge construction within municipalities. Taking advantage of the new legislation, the Missouri State Highway Commission undertook a number of urban road and bridge projects during the late 1930s. Located on the southern side of New Franklin on State Highway 5, the New Franklin Viaduct was one such construction project. To span the Missouri, Kansas & Texas Railroad, the Missouri State Highway Department engineered a multiple-span concrete girder structure, with slightly arched girders, open balustrade guardrails and pedestrian stairways at both ends. On September 22, 1939, a \$167,894.18 contract for the structure's construction was awarded to Carrothers and Crouch. Completed the following year, the New Franklin Viaduct has since carried increasingly heavy traffic loads on the principal highway leading into the city from the south.

As an important crossing of the MKT Railroad, the New Franklin Viaduct has formed an integral part of the city's street system. The viaduct is also important as one of the railroad separation projects funded through the New Deal's Hayden-Cartwright Act. Federal relief programs of the 1930s broke with past practice by allowing federal funds to be used for urban, as well as rural highways. Grade separation was a major focus of the highway department during this period, requiring commitment of much staff time. The New Franklin Viaduct is technologically distinguished as a multiple-span and long-span example of a MSHD mainstay structural type—the concrete deck girder. A well-preserved, regionally important example of this common bridge type, the structure is both technologically and historically significant.

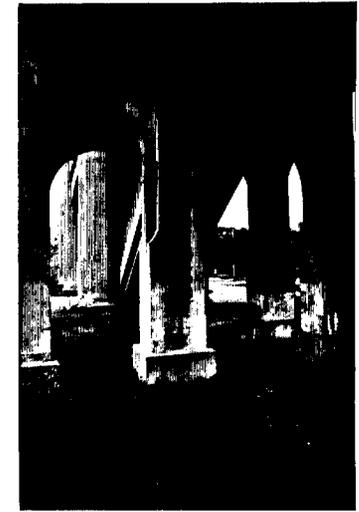
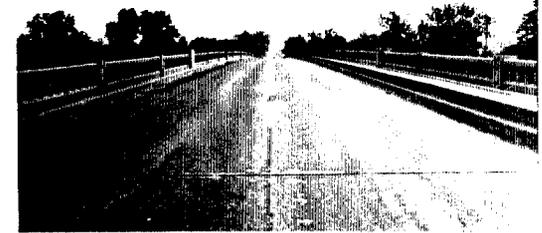
NAME(S) OF STRUCTURE
New Franklin Viaduct

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway Transportation Department, Structure Inventory and Appraisal: Structure Number K 744; Missouri Highway and Transportation Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO; field inspection by Richard Collier, 8 June 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
29 November 1994

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE

Drake Bridge
MHTD: 085002.0

HOWA13

DATE(S) OF CONSTRUCTION

1899

LOCATION

County Road 85 over Moniteau Creek; Survey 2455, T49N, R15W
9.0 miles east of New Franklin; Howard County, Missouri

USE (ORIGINAL / CURRENT)

roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 55)

CONDITION

fair

OWNER

Howard County

span number: 1
span length: 80.0'
total length: 119.0'
roadway wdt.: 12.0'

superstructure: steel, 5-panel pin-connected Pratt pony truss, with steel stringer approach spans
substructure: built-up steel piers and abutments
floor/decking: timber decking over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted above lower chord; cast iron hip blocks and bearing shoes

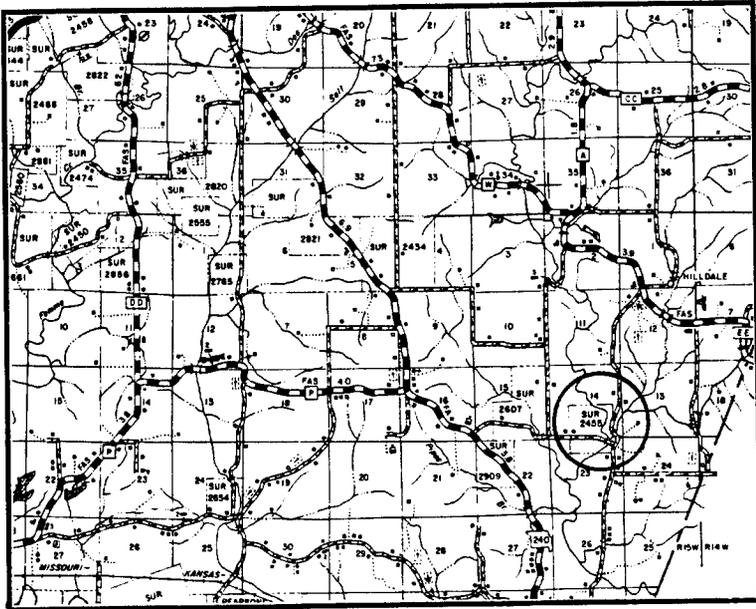
In the summer of 1899, Howard County Bridge Commissioner John Wisely was ordered by the county court to prepare an estimate and solicit competitive bids for a new steel bridge over Moniteau Creek some nine miles east of New Franklin. According to Wisely, the structure would require an 80-foot pony truss span, supported by a steel substructure. That August the county awarded a contract for the construction of the Drake Bridge, as it was known locally, to the Wrought Iron Bridge Company of Canton, Ohio, for \$1645.00. The Drake Bridge has functioned in place since its completion in 1899, with only maintenance-related repairs.

In the early 1880s the pin-connected Pratt through truss superseded the bowstring arch-truss as the iron bridge of choice for medium- and long-span wagon bridges. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design is distinguished by vertical members acting in compression and diagonals that act in tension. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty (250) feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems." Virtually all of the major regional bridge fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties in the late 19th and early 20th centuries. Hundreds of Pratts remain in place today. The Means Ford Bridge is distinguished among these for its patented construction and well-preserved condition. It is thus significant as an early example in Missouri of a mainstay structural type: the pin-connected Pratt pony truss.

NAME(S) OF STRUCTURE

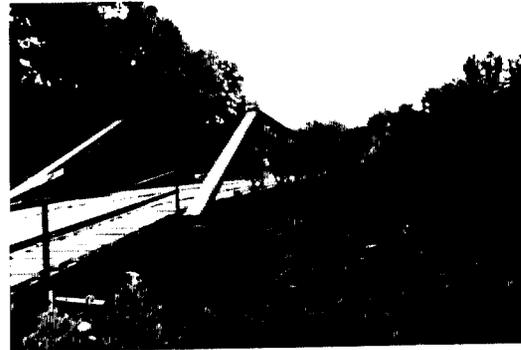
Drake Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 085002.0; Howard County Court Record: Book 25, page 141 (9 August 1899) - located at Howard County Courthouse, Fayette MO; field inspection by Richard Collier, 8 June 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
29 November 1994
